The Builder.

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Exhibition Award-Day. Chat in the Building.

ALL things went well on the award-day at the Palace of Art and Industry: the arrangements were good, the day was fine, and the programme was carried out. The number of persons assembled in the Horticultural Gardens and the building was unquestionably much larger than that which has been published; and it may not be impertinent to inquire, in the interest of the undertaking, what check the Commissioners have on the money returns? Theatres have been ruined before now by the money-takers. A fresh aspect was given to the nave by the erection of national trophies at intervals, whereat the awards were handed to the various representatives. In the construction of these trophies Signor Magni's admirable and beautiful statue of "The Reader," in the Italian, and Mr. Cropsey's fine picture, "Autumn on the Hudson" (why does this remain unsold, by the way?), in the American trophy, both suffered by position, though they increased materially the interest of the several groups. The change in the statue through bad light was especially great: where it was first placed it chained all beholders. It had the same effect, our readers will recollect, at the Exhibition in Florence. Numerous military bands lent their aid on the award-day, some of them, perhaps, as fine as any in the world; but no one of these created the same effect on the listeners, partly because of the novelty, as the band of the Egyptian Ruler: a wild, semi-barbaric march played by them excited strangely all who heard it. More than one accomplished musician, as we happen to know, sought to obtain the music, but were not successful.

The names of those exhibitors who have obtained medals and honourable mention, with "reasons for the award," have been published; but the reports of the juries have not yet appeared. These are being collated, and will be published under the supervision of the Society of Arts, next month. The juries, we may mention, were sixty-five in number, grouped so as to form thirty-six classes or head juries, corresponding to the thirty-six industrial classes under which the objects are arranged in the Exhibition. Each of these head juries, when subdivided into sections, acted as a united body for the confirmation of awards. Before, however, these awards were considered final, they were brought before and received the sanction of a council, consisting of the chairmen of the thirty-six head juries. In the first instance, her Majesty's Commissioners decided that only one description of medal should be awarded by the juries. As the work of the juries advanced, however, it was ascertained that many articles possessed excellence of a kind which deserved a special mention, without, however, entitling them to a medal; and, although it involved some departure from the principle that had been originally laid down, yet the council of chairmen acceded to the wish of the juries, and permitted such cases to be classed and published under the title of "honourable mention."

The jurors and their associates engaged in examining the objects of the Exhibition amounted to 612 persons, of whom 287 were foreigners, and 325 English. Their labours occupied two months, and they had to examine the objects displayed by at least 25,000 exhibitors. The number of medals voted by the juries amount to nearly 7,000, and the honourable mentions to about 5,300. The proportion of awards to exhibitors is greater than in the International Exhibition of 1851, but less than in that of 1855.

Although the same medal is given to all, something of the relative opinions of the jury may be deduced from the lists. On analyzing, for example, the awards of the jury on cabinet works in the present Exhibition, the great progress evinced by English makers since 1851 becomes apparent. In 1851, the principal prize was the Council medal of this class. France took four for cabinet-work, and England not one. In Paris, 1855, there were two principal prizes, viz., the gold medal, of which France took four and England one (Jackson & Graham); and the silver medal, of which France took fifteen and England one (Trollope & Sons). On the present occasion, as we have said, all the medals are of equal value; the special distinction is the reason given by the jury for their award; and we find that, for "*great excellence of design and workmanship*," medals are awarded to three French firms and three English firms, namely:—France—Barbédienne, Fourdinois (Père & Fils), and Grohé. England—Jackson & Graham, G. Trollope & Sons, and Wright & Mansfield.

This result in an industry for which France has been so long famous is most creditable to the English manufacturers: bearing in mind, too, that the jury included a majority of foreigners.

Postponing notices of other divisions, we will give the names of the successful exhibitors, of the United Kingdom, in one class,—that of Civil Engineering; Architectural and Building Contrivances; Sanitary Improvements; and objects shown for architectural beauty (Class 10), and of those in part of Class 34; but, before doing so, may carry on our gossip in the building a stage. Let us look at some of the photographs.

On a recent occasion we called attention to the valuable architectural photographs exhibited in the Roman Court. In the French and Austrian divisions there are others of a similar class, which should be sought out and carefully studied by every architectural student. In the Austrian department a series of photographs of ornamental detail, from the most celebrated Mediæval edifices of Venice, is worthy of attentive study. The crocket-work from St. Marc's is truly wonderful for its intricate elaboration, and very interesting on account of the remarkably distinct kind of treatment which it exhibits. Seen from the piazza, many of the sculptor's finer touches escape the eye. It may be said that these minute refinements in no way aid the general architectural effect; but, even if such should be the case, it is delightful to find how the enthusiastic industry of the Mediæval artist carried the finish of his work far beyond what was required for effect at a given distance; and it is, at the same time, very instructive to trace, in the photograph, a thousand little niceties of treatment never by any other means destined to be plainly seen by the ordinary spectator. It is not quite certain, after all, that this exquisite finish is entirely lost to the eye, even when the spectator contemplates the general effect of the building from the pavement of the piazza. There must be a kind of artistic bloom given to the work by this refinement of finish (when it is kept subservient to the main forms and to the general massive effects of light and shade) which, even at a great distance, does not entirely lose its charm, although the precise kind of charm produced is not to be specifically defined. It appears, however, highly probable that the delicate effects may not be entirely lost, when we consider that the material is white marble, and that the light is that of an Italian sky. But we have already dwelt so long upon the exquisite foliage-work of the crocketings of St. Mark's, that we have only space to say, in reference to the other photographs of the rich details of Venetian Gothic, that some of the decorative features of the Ducal Palace, when thus brought close to the eye by means of a large photograph, are perfectly marvellous in the intricacy and beauty of their detail. They have, moreover, a certain freshness about them which we have rather worn off similar features of English, French, or German Gothic by frequent imitations, which have been ever growing closer and more close.

Among the French photographs of ancient, Mediæval, and modern buildings, those by Mr. Charnay, of the extraordinary architectural remains of Central America, merit particular attention. We have hitherto only seen the details of those wonderful remains reproduced by means of drawings, which have been again filtered through the medium of lithography. In such representations the pencil of the original artist, and afterwards the chalk of the lithographer, necessarily impart more or less of a feeling akin to other styles of art with which they are better acquainted; thus taking from those ancient American remains that peculiar stamp and character which is so singularly interesting. These photographs, on the contrary, give us, untainted by any of the unavoidable mannerism of the artist's pencil, a number of curious details, the precise character of which we could not become acquainted with through the medium of any other process; except, indeed, by means of casts in plaster, which would be far too cumbrous a mode of proceeding. The style, when thus seen and studied, as in the presence of the buildings themselves, conveys the idea of an architecture in which something like the earliest Egyptian and the earliest Hindoo forms are curiously blended. The Egyptians had a tradition that they came originally from Central Asia. The first offshoot of the race may therefore have travelled west from their original seat and settled in Asia, where, like the Western Chinese, as they have been called, they maintained the style of art and general civilization which they brought with them, unchanged, for thirty or forty centuries. A second offshoot, at a later period, when their Asiatic forms of art may have attained a state more nearly approaching the forms of the most ancient examples of Hindoo, may, by a nearly opposite route, have reached America at the extreme north, and, travelling southward, in succeeding generations may have reached those central plains where such extraordinary remains of architectural art, upon a gigantic scale, are now found, and the style of which cannot be accounted for through the medium of any known forms of ancient American art, not even the Mexican. But it is not safe to indulge in such speculations pending the quarrel upon matters Egyptian between Sir Cornewall Lewis and the Egyptologists; that is "a very pretty quarrel as it stands," and "we should only spoil it by trying to explain it." And so, taking the wonderful ruins of Central American architecture as we find them, without endeavouring to assign to them either dates or history, we shall find sufficient to examine in the singularity of their general aspect and their elaborate details. In the first place, we learn from them that styles of architecture may exist (good or bad) entirely different from any style with which we are acquainted, just as this architecture of Yucatan is different. We may learn, also, if we did not know it before, that distinct styles are not invented, but that they grow—that is to say, that they develop themselves, step by step, from simple beginnings—the structures and their decorations becoming more complicated as architectural power, along with other national knowledge, is developed among the people.

Styles of architecture are like political institutions,—they must grow—they cannot be invented. All attempts, for instance, to imitate the British constitution in other countries have failed. With us it has grown on its native soil; and each country must grow its own constitution from the very

earliest germ, or it will not be permanent; it will be without that deep root in the national feelings that is necessary to its security.

We must look upon the remains of the architecture of Central America as specimens of a style of art produced by several centuries of gradual development from some peculiar germ that gave to it a special vital principle which spread into higher and higher forms, without losing the impress given to it by the original germ; just as in the highest form of the Doric temple we plainly trace all the original features of the wood hut.

Among the most remarkable examples of the Central American style of art presented to us in this series of photographs is that of the building called "The Governor's House," in Yucatan. An ingenious ornament, analogous to that of the Egyptian and Greek "key pattern," is most conspicuous in the decoration of this building; but it is enriched and made far more intricate by devices which belong entirely to a distinct style.

In the Palace of Mitla are a series of geometric ornaments, of most ingenious construction and pleasing effect, which fill, after a peculiar fashion, a succession of panels. These ornaments, and the mode of their application, are full of workable suggestions of some value.

In the principal building at Uxmal, the most striking feature is the rounding of the angles of all the main walls, the rounded portion being most elaborately enriched. This is a feature which might be worked out in any style of architecture (in which the building was a detached one) with an effect full of novelty, and, if well treated, with great beauty at the same time. There are also other curious and original features in the building at Uxmal.

Another fine photograph gives us an elaborate doorway from Chichen, in the same district, which, in its main features and much of its marvellously intricate detail, is more truly architectural than many admired monuments of Early Indian architecture that might be cited. In short, though to a great extent this architecture of tropical America exhibits no scientific principles of structure, and betrays a want of continuous development in the design of its connected portions, it is yet well worthy of careful study; and the fine set of photographs exhibited by Mr. Charnay affords a good opportunity.

A French photograph, on a large scale, of the principal doorway of the Romanesque Church of St. Trophine, at Arles, is a very valuable contribution to our records of the art of that period. The design and execution are at once grand, rich, and simple. The proper union of sculpture with architecture appears to have been better understood at that, so called, period of decadence, than at any other. Even the defects of the figure sculpture (as compared with the higher kinds of Greek and Roman art) arise mainly, not so much from an utter decline of artistic skill as has been generally supposed, but from an effort to return to a crude imitation of nature, the pre-existing systems of idealization being worn out, as all conventional systems must eventually be, to give rise to other systems equally conventional, after a new start from a mere literal copying of nature has given a new direction to the artistic feeling of a new age, which had no longer any intimate sympathies with the traditional forms of art of a preceding period. It is thus that our pre-Raffaellites, in the midst of the crudest and most unthoughtfully literal transcripts of unselected nature, are by their indomitable energy preparing a new phase of art which will eventually lead to a new kind of idealization; for to suppose that mere literal copying of ordinary nature can become a permanent state of art appears simply absurd, otherwise the photographic camera would do the artist-work of the age far better than the paint-brush or the chisel.

Mr. Baldus exhibits some well-known but truly noble photographs of the recent additions to the Louvre and the Tuileries. The style of art developed by the French in carrying out, in new forms, the sentiment of art inaugurated in these fine monuments of the Renaissance period, has already produced its effect even in England; for in the competitive designs for a palatial group of buildings to replace the Government-offices in Downing-street, and afford a fitting location for the Foreign-office, we had rather too much of the Louvre style. It is, however, quite in its place, and truly national, in France; and tends to show how, by *advancing* upon established national styles instead of slavishly reproducing them, a fine, national, and progressive style of architecture may be produced.

Mr. Edouard exhibits a photograph of the new Russian chapel in Paris, consecrated in 1861. The singular admixture of Byzantine features with a structure that might pass otherwise for French or English Gothic of the thirteenth or fourteenth century, is very suggestive; and in this photograph, which is on a very large scale, these peculiarities may be studied in the greatest detail.

Some Egyptian photographs of great size give a far more accurate idea of the Nilean architecture than can possibly be obtained from the most skilful drawings. Features that in drawing often appear grotesque are simply grand in this more accurate method of representation.

There is also a series of photographs of some of the most remarkable of the architectural dressings and incorporated statuary of the celebrated fountains in the Park of Versailles. These compositions, thus presented in a condensed form that the eye of the student can command at a critical glance, display a variety of merits of detail which are apt to pass unnoticed at the time of the grand displays of this noble series of fountain-work, but which, nevertheless, greatly add to the success of those celebrated exhibitions of combined hydraulic and architectural genius.

Three new specimens of Italian mosaic have been added to the international display of that branch of art during the last fortnight. They are exhibited by Mr. Antonio Salviati, of Venice, who, it is said, is now in charge of the repairs and restorations at present in progress of the ancient mosaics of St. Mark's. The first specimen is of an early Byzantine character, being the figure of a saint on a gold ground, of course accurately reproduced from one of a series in the ancient church of Monreale, near Palermo. The second is a copy of a fine head of St. Nicholas, the original of which forms part of the magnificent mosaic decorations that clothe a large portion of the interior of St. Sophia at Constantinople. It is a very interesting specimen of late Greek art, and has, like many of the Byzantine illuminations in the manuscripts of the period, the name of the saint in Greek characters of a late style at the side of the head. It reads NIKOΛAOΣ. The third specimen is a half figure of Christ from St. Mark's at Venice, which is superior both in design and workmanship to either of the other specimens. It is in a style which would blend far better with our modern Gothic than the works of more Oriental character.

In the Roman Court there are several fine specimens of mosaic which were not named on a former occasion; among these are a fine view of St. Peter's, and a clever general view of Rome, neither of which are of a kind that could be used with effect in architectural design. There are, however, some small specimens, in a peculiar style, which are very suggestive of different uses to which that peculiar kind of work might be applied in the decorative features of interior architecture. The designs of the specimens in question are composed of branches of flowering plants, produced by a mosaic inlay, which is encrusted in plain black marble. They are very superior to the Florentine specimens of coloured marble inlay, the flowers in these specimens being represented by the mosaic process with all the accuracy and beauty of painting. In many kinds of architectural decoration, pilasters of black marble, or marble of any uniform colour, inlaid with mosaic flowers and foliage after this manner, would be exceedingly beautiful; and such an effect, as an architectural feature, has not hitherto been produced. The flowers executed by this process in the actual specimens are forget-me-not and jasmine, both being treated with great taste and delicacy. The display of mosaic work in the Roman Court is rendered all the more interesting by the exhibition of a large case containing a selection of the tesseræ of which mosaic work is composed: the gradations of shade, of every decided tone, being very numerous, and produced with unvarying accuracy. The tesseræ of the ancient mosaics are said to have been formed of stones naturally of the colour required; but on the modern revival of the art, coloured glass or earthenware was substituted, the gold tesseræ being gilt, and then protected with an additional glaze. The statements which a leading paper has indulged in upon this subject, led astray, perhaps, by the imperfect English of the Italian gentleman in in charge of Mr. Salviati's stand, are not quite correct.

We may here mention that there are also in Mr. Salviati's display some tasteful vases, formed of a modern imitation of that kind of old Venetian glass-ware which, by an admixture of glasses of different colours, produced a marbled effect that is very pleasing. The reviver of this old style of glass-ware, Mr. Lorenzo Radi, has termed it "Agate chalcedony," which is a very pretty name. These glass vases are very gracefully mounted in silver filigree, and light gold or gilt work, of very delicate device; the form of the vases and the elegance of the mounting showing how the hand of taste may elevate into novelty and elegance the most ordinary materials. Mr. Hope is the purchaser of one of these elegant trifles, the price of which is extravagantly high.

The Awards will be found two pages on.

A FEW FACTS FOR THE WORKMAN WHO VISITS THE LOAN MUSEUM AT SOUTH KENSINGTON.*

OF late years, no subject has been more taken up by writers and lecturers upon art, than that of enamelling; and we have had all the distinctions between the *cloisonné*, the *champlevé*, the early and late *Limoges* most carefully pointed out; while examples in the various museums, both at home and abroad, are referred to as illustrations of these different varieties, which, by the way, have not even now got English names; but, some how or other, it cannot be denied that our enamels leave a very great deal to be desired, both in the matter of colour and in that of texture. If we go to the great Exhibition we shall see but one manufacturer who has perfectly succeeded even in one kind of enamelling, viz.,—Mr. Barbédienne, the well-known bronzefounder of Paris. All his enamels are good in texture, and very nearly all are good in colour; while it may be observed that they all come under the designation of what is called *champlevé, i.e.*, where parts of the metal are cut away, and afterwards filled in with enamel. They are also opaque, and in their gamut of colour bear more resemblance to the Chinese work than to that of Limoges.

In praising Mr. Barbédienne's work, I do not for a moment wish to assert that the productions of other manufacturers are all bad; on the contrary, nearly every exhibitor has some one or two good colours. Thus, Hardman has a very tolerable light blue; Keith, a good transparent red upon gold; Skidmore, a good transparent green; and Hart has also one or two fair colours; but by the the side of these are often to be seen enamels whose colours positively shock the eyes, so violent and bright are they. The real cause appears to be that the Mediæval revival found our silversmiths simply in the possession of enamels suitable for jewelry work: *i.e.*, where they were employed in small quantities, and in exposed situations, such as in rings. The consequence is, that they are exceedingly hard, so as to bear as much wear as possible; while the colour is almost a secondary question, as the brightest colours become innoxious when employed in small quantities.

What is really wanted is this, viz, for one of the great firms mentioned above to take the matter up seriously, beginning with proper analyses of the old work as a foundation, and continuing the experiments until they produce a good series of opaque and transparent enamels. Of course, the enterprise would cost some amount of money, and a still greater amount of time and patience; but the same thing has been done with regard to glass, by the Messrs. Powells, with the assistance of Mr. Winston; and we see what Mr. Barbédienne has produced in enamels. The great question is, as to whether it would pay commercially; but I believe that the last-named gentleman has not had any great reason to complain of the commissions received at the Exhibition.

The Loan Museum has this very great advantage,—of presenting to the workman a great number of examples of all kinds of enamels, which he is enabled to study, free of cost, until the end of the autumn. Nearly every phase of the art will be found represented, from the remotest periods down to the minatures of Petitot and Bordier. This is hardly the place to go into the history of the art; for that can be found in almost any one of the numerous archæological publications of the last ten or fifteen years; but my object is rather to point out one or two representative specimens which show clearly the manipulation and the gamut of colour.

Although not enamels; the student should by no means overlook Mr. Webb's collection of antique glass; for, a few years ago, it was by no means an uncommon belief that, though the ancients knew how to manufacture glass, yet that it was exceedingly scarce and little used. The discovery of sheets of plate-glass in several of the windows in the little town of Pompeii has, however, dispelled this delusion as to its rarity; while the

* See p. 491, *ante*.

contents of Mr. Webb's case show us that the ancients produced glass which quite rivalled the far-famed work, in later times, of Murano. It does not appear, however, that they did make the thin and thready patterns we so much admire in Venice glass; but they did manage to manufacture most wonderful glass of various colours combined together, and so beautiful is their blue glass, that Theophilus tells us it was broken up and employed as the colouring matter for other glass in his own time. The Gallo-Roman enamels also show us two or more colours used in juxtaposition, without any intervening fillet of metal; and it is still a question how this was effected. No less wonderful are the enamels on the Irish work, of which there is a whole case at South Kensington; the most noticeable object in it being the celebrated crozier belonging to the Duke of Devonshire, which is literally covered with damascening, nielli, and enamels. It has been supposed that these latter were fabricated by putting sundry small sticks of glass together in a pattern; then heating them, and drawing them out until they became much more slender. In this state the roll of glass was cut into slices, which were afterwards polished and fluxed into the metal settings made to receive them.

There are one or two very beautiful specimens of what may be considered as the next stage in the art, although it is by no means certain but what it may not have been the most ancient of all. This has been called the *cloisonné;* a name I am obliged to use as I am sorry to say that as yet there is no recognized English for it. Small strips of metal, generally gold, are bent into various curves, and then soldered on to the bottom of a little tray or box, thus forming sundry cells into which the enamels, generally transparent (but not always), are placed, and afterwards melted. The celebrated jewel of King Alfred, now in the Ashmolean Museum, is made in this manner; as is also the pectoral cross belonging to Mr. Hope in case 1 of the present collection; where also can be seen a reliquary in the form of a foot, which contains several pieces of this kind of enamelling; but perhaps the most curious specimen of all is the fourteenth-century cup belonging to Mrs. Saul, in a case near the entrance. Here the bottom of the little tray or box to which the strips of metal are soldered has been removed, so that it is possible to see quite through the enamel; and, as the trays are made in the form of windows, the effect is very good indeed: of course the enamels have been made separately, and fixed to the cup afterwards, as precious stones would be. It is a curious fact that, while all the western enamels of this kind are executed on gold, the Chinese specimens show that copper is quite capable of being employed for the same purpose.

The next sort of enamels are called *champlevé,* because the holes for the enamels are made in the thickness of the metal. It is often called Early Limoges, as that city appears to have been the principal seat of the manufacture; although it is now well known that there was another school somewhere on the Rhine; and, doubtless, in many other places as well. In the earlier specimens the figures are enamelled on a gilded ground: in the latter examples the ground is enamelled, and the figures engraved and gilded. In both we see several colours used in the same hole or cell, but then they partially run into one another, and are not strictly defined, as in the Gallo-Roman work. When the figure is in metal, it is to be observed that the real outline is always engraved within the edges of the metal, thus giving two outlines to each figure. This system, however, was not carried out in the later works executed by this process on a silver ground, as the Bruce horn and the Lynn cup; but here the enamels are transparent, and the ground has a pattern engraved on it, which serves the double purpose of ornamenting the enamel, and retaining it in its place. It would be impossible to describe all the examples of the Early Limoges work in case 1. Suffice it to say that they are many and beautiful; although in one basin, a violent blue and an objectionable green, in juxtaposition, are as bad as any modern work ever seen.

In all these examples the article has gone through the fire at least twice; for as the enamels melt, they also sink down and present a hollow surface. Thus Theophilus gives strict directions that the *cloisonné* enamels should be twice filled in and twice go through the fire. The Eastern nations, on the contrary, very often content themselves with only one firing; and it is for this reaaon, *inter alia,* that I suspect the horn belonging to Mr. P. Howard, of Corby Castle, to be Eastern work. The common tradition is, that it was once the property of one of the counts of Toulouse.

A girdle of fifteenth-century Italian workmanship, and belonging to Mr. Octavius Morgan, also exhibits the same peculiarity, although in this case there is not the least doubt of the nationality of the nielli.

At the present time, what we want is good *champlevé* enamels, viz., opaque ones on copper, like the Limoges work; and translucent ones on silver, like the Bruce horn and the Lynn cup. What are called the translucid enamels on relief are, I am afraid, very much beyond the men of the present day; indeed, it was always a difficult operation, and appears to have been employed chiefly by the French and Italians, particularly the latter. It may best be described as the art of covering figures or subjects executed in low relief on metal, with various coloured transparent enamels, but without any interposing strip of metal to keep them apart.* I am not aware that any modern artist has attempted to copy this kind of enamel, the mode of which is minutely described by Cellini. Such, however, has not been the case with the later Limoges enamels; for some two or three years ago the French tribunals were occupied with the trial of a gentleman who had sold a very large collection of works of this kind to one of the Rothschilds, but which, unfortunately turning out to be the result of modern ingenuity, had the effect of consigning the talented artist to the four walls of a prison, to say nothing of the restitution of the purchase-money. These later Limoges works have the surface of the metal covered with black enamel, upon which figures are drawn with white enamel, while the general effect was relieved by gilding. This kind of work has become exceedingly fashionable of late years, and, as a natural consequence, has commanded exceedingly large prices; and some idea may be formed of the value of the present collection when we see two large cases entirely filled with it; among which are conspicuous a series of historical portraits, belonging to Mr. Danby Seymour, the frames of which, however, are modern.

Works in niello are, if anything, much rarer than enamels. In the present day the art is principally confined to Russia; but it is now beginning to be executed in England. Mr. Skidmore has been particularly successful, and the niello executed by him is of a perfectly black colour. That, however, of Hardman & Co., is much too light and metallic-looking. The process of making and using the niello is described by Theophilus and Cellini. In the Loan Museum we have two specimens, one of the twelfth century, and the other of the fifteenth. The former is the celebrated portable altar belonging to Dr. Rock; and the other, parts of a book-cover, the property of the Duke of Hamilton.

Damascening is also another art not much practised at present, although there are some very satisfactory works in it, from Spain, in the International Exhibition. In the Loan Museum will be found a considerable quantity of the Mossul vases executed during the Middle Ages, and the more modern application of the art to armour, &c., during the Renaissance.

There is not very much ironwork, although Mr. P. Hardwick contributes some very good locks, hinges, &c., of German work. The iron chair presented to the Emperor Rodolph II. by the city of Augsburg is a marvel of workmanship. Space will not allow me to do more than simply mention the collection of bronzes, arms, watches, Mediæval embroidery, Faïence, Majolica, and China, to say nothing of the silversmith's work, principally of the last three centuries; but it is to be questioned whether the public will ever be able to see so many ivories of the Middle Ages brought together as those forming Mr. Webb's wonderful collection. This gentleman presents us with ivories of every time and every nation, from the consular diptych down to the devotional figures of the seventeenth century. It would, indeed, be most desirable that they should be purchased by Government, and added to those brought together by the care of Mr. Franks, in the British Museum. Looking at the current price, however, of similar things, such a consummation must be entirely out of the question; but there is one little triptych carved in wood, and to be sought for in a case adjacent to Mr. Webb's collection, which must possess a good deal of interest to all Englishmen; for there can be but little doubt that it is the work of a fellow-countryman; the details exactly agreeing with those found in Ely and Lincoln Cathedrals, and indeed in all England, in the middle of the fourteenth century.

To conclude, it certainly behoves every one who has any interest in the present revival of Mediæval art to take advantage of the present exhibition, and study it most carefully. This should more particularly be the case with our manufacturers, for perfection in only one object capable of being produced by machinery is sure to repay them, if that article is a good and popular one. In this respect they have a great advantage over the architect, who is not allowed to repeat his work, and who is therefore limited in his production of good things; for the more he takes, the less attention and thought can be bestowed upon each work. A manufacturer, on the contrary, repeating the same thing, rather improves the workmanship, and makes his fortune without any further trouble. It is therefore evident, that it is of the most vital interest to him to procure the best designs; and this is only to be done by seeing that his artists and his workpeople make the most of opportunities such as the present Loan Museum affords. The authorities of the South Kensington Museum have not hitherto been everywhere popular; but in the present instance they have certainly deserved well of their country; and, above all, let us not forget to thank those noblemen and gentlemen who have not only worked upon the committee, but in such an unselfish manner have deprived themselves of their most valued treasures to instruct their fellow-citizens.

W. BURGES.

* These translucid enamels upon relief are excessively rare. There are, however, some in case 1: among them a square plaque representing the Last Supper (Mr. Morland), and a Morse (Mr. Magniac), &c.

WHAT SHOULD BE THE SPIRIT OF MODERN WORK.

THERE seems at this moment to be one guiding principle amongst us, and that is to be "doing the grand;" to appear richer, greater, or more influential than we are. It is about the most sneaking, vulgar trait that ever existed: it is such mean, contemptible lying. How is it possible that men who love the pleasures of modern society can ever rise to be noble, honest, simple characters? The love of showing off is universal: the fear of offending society is the law of life. As to a man being guided by his own firm conviction of what is natural and right, there are only the few who have sufficient within themselves so to do. But the majority cannot do without the world: they are not men, but weak nondescripts; certainly not likely to be artists ever in a right sense. Now, the great fault of modern art is its vile conceit: it panders to the weakness of the age, rather than teach the world a sound moral lesson. The insipid modern Italian constructional polychrome, and the copyism of French early detail, are our latest vanities; full of prettiness, elegance, and finickiness. It is sinking architecture to our modern suburban villa life—horrid sham, from beginning to end. Our every-day life being in itself so miserably vain and conceited, it would be well for our architects to be as severe and rigid as possible; eschewing all prettiness and elegance, as things appertaining to the devil.

Rigid work is the best antidote to vanity; and no good art can ever come out of the desire to suit art to modern wickedness. Architecture must be the leader, not the follower, of the so-called modern civilization: and thus, with painting, Leys teaches us something of truth and severe life, but Hebert panders to our vanity. Modern majolica and glass are polished and finished to suit our would-be refinement, and lose all the life of the old work by their want of roughness.

The tendency to centralize shown in many administrative quarters is another foul conceit: the very idea of thinking you can make an artist by rule, and teach him design by laws, shows vulgarity. None so taught will produce one piece of work that shall possess even half the amount of life you may find in any common Japanese grotesque. The whole of the design from such is machine-like and absurd; regular instead of irregular; cold in colour. It is no use talking of it: it is as vulgar and commonplace as Romanesque art is noble and manly. The very soul of art is individuality: individuality is the true characteristic of an Englishman; and by that alone has the nation at large attained its great power,—I mean its fox-hunting, noble country gentleman, honesty, and power. All modern English and foreign art is full of Academyism: it tries to please modern vitiated taste; and does not, in the slightest, attempt to mend our pitiable condition. Any copying of a style is a form of centralization. It is no copying to build with a Pointed arch: a Pointed arch is the strongest form, and hence is adopted by honest men. To adopt French conventionalism is copying. Each man ought to conventionalize

for himself in his own individual manner. One is a law of nature, the other mere subsidiary ornament.

The Early English Gothic shows, in its various remains, great individuality and difference: they were then as little given to centralization as are the right-minded now; whereas the French were always fond of following one central system. So heavy and dull are the majority of architects, that, in order to give a little decoration to suit modern finery, they adapt, as they call it, Italian polychrome, and stick a few coloured bricks round a window. This Modern Italian Gothic is certainly the most sickly thing I have had the misfortune in my life to look at. It is the carrying out, to its full extent, of that wonderful and enlightened remark of the nineteenth century architect, that he must suit his work to the advanced civilized state of modern society. I picture to myself the conceited ape, nay, absolute fool—no, both,—who can talk of modern advancement in an age that has fallen to such a bathos of ignominy as to get its carpets made by machinery. I cannot express my contempt for an age that must needs invent a steam-engine to do men's work; and to what a state of imbecility is the man reduced that has to set this thing a-going! And what have you done with your engines and your machines? Have you produced even one good piece of work? Have you one piece of grotesque you can show me with pride? Are your men any happier or nearer heaven? All the good work that is done—and it is precious little—is by men who are farthest removed from the spirit of steam-engines.

For Heaven's sake, let us try and mend our ways: let there be but one law for all things,—truth and nature: let us have heart and eye work, not rule and tape work: let us set at defiance modern elegance, and show to the world what rigid severity and honesty of purpose are: let us have no more pandering in coloured bricks to Dame Vanity; but let us crush fashion and sensuality by this same "rigid severity" of work. And, before I close, I must bring this same principle to bear on the sister art, Music. We must crush the modern triviality and elegance of Verdi and the Italian school, and learn to appreciate the beauties of Beethoven's third period, the D Mass, the ninth Symphony, its descriptive character; that is, his desire to aid with music the carrying out of the sentiment, either understood or contained in the words; and, above all, we must learn to love the works of Wagner—his musical poems: he is the Leys or Rossetti of music: his orchestration aiding the poem to express the hidden feeling we must understand; for that is the true and natural purpose of music, its true moral end; very different to the tickling sensuality of modern airs. Modern Italian music is like a piece of architecture full of mouldings and chamfers,—that is, full of triviality. It is only written to show off singers: the orchestra is but a large guitar, with an Italian composer; but with Beethoven in his third period, or with Wagner, it assumes its natural place,—that of expressing the sentiment of the words which the singers declaim. Old English airs and madrigals, and Palestrina's Italian school, are also very natural and simple. The latter have great expression of harmony. And, thus far, all our modern work should be rigid, severe, crude, to oppose the vanity and finery of our age. To refer to what I call rigid work, I call the roughest Norman and Early French rigid: of works modern, I call the shops in Worship-street, Shoreditch, rigid: there is no attempt at cold, measured form: they are quaint, and have life in their form. The Gloucester Fountain, some years ago published in the *Builder*, was rigid. Modern textile fabrics and carpets are thorough specimens of machine-like evenness of colour, and they have no life. In Indian carpets you never find two feet of carpet alike in tone of colour. They do not study evenness of colour: they will work with three or four different tones of one colour; and their colour has life, because it is not exact.

A. W.

CONVERSAZIONE, POLYTECHNIC INSTITUTION.—On Wednesday last, the directors received and entertained a large number of visitors, including many foreigners now in London. Some electrical experiments with the large plate-glass machine, stated to have been originally constructed for the Emperor Napoleon I., were shown, with a brief lecture by Mr. J. H. Pepper. There was a concert, too; an exhibition of metallic spectra; and many other interesting matters; including telegraphic communication with St. Petersburg and elsewhere. All seemed well pleased.

AWARDS TO BRITISH AND COLONIAL EXHIBITORS.

CLASS X.

SECTION A.—*Civil Engineering, Architectural, and Building Contrivances.*

MEDAL.

Nation.	No. in Catalogue.	Name of Exhibitor.	Objects Rewarded, and Reasons for the Award.
U. Kingdom	2235	Barrett, H.	Model of fireproof floor. Practical success.
,,	2239	Bethell, J.	Creosoted wood. Successful application.
,,	2245	Brunel, I., as representative of his father, the late I. K. Brunel, F.R.S.	Models of Saltash and Chepstow bridges. Boldness of design and ingenuity, and goodness of construction. Novel and excellent means of sinking the foundations under very difficult circumstances.
,,	2255	Clark, E.	Model of hydraulic graving dock. For its great utility and novelty of application.
,,	—	Clemence, Q. V.	For the simplicity and economy of construction of the dome scaffold, and traveller, as illustrated by the models.
,,	2265	Cowen, J. & Co.	Gas retorts, firebricks, &c. Excellence of quality.
,,	2268	Doulton, H. & Co.	Stoneware pipes, &c. Excellence of manufacture and lowness of price.
,,	2289	Gibson & Turner	For the boldness of design, and successful execution of the Liverpool station roof, represented by the model.
,,	2290	Gilkes, Wilson, & Co.	Model of railway viaduct over the river Belah. For goodness of execution of the viaduct.
,,	2307	Kennedy, Lieut-Colonel	Extensive application of screw piles to bridges of great extent in India, as illustrated by his models.
,,	2316	Macneil, Sir J., F.R.S.	Importance of design and successful execution of the bridge over the Boyne, illustrated by the model.
,,	344	Murray, John	For good design and execution of Sunderland docks, illustrated by the model exhibited by the Sunderland Local Committee.
,,	2324	Norman, R. & N.	For excellence of manufacture of ornamental bricks and tiles.
,,	2354	Salter, S.	For the admirable execution of the model exhibited by C. Vignoles.
,,	2311	Scott, Capt. H. Y. D.	For discovering a good and cheap cement. Exhibited by Lee, Son, & Smith.
,,	2339	Silicious Stone Company	Articles made in artificial stone. For excellence and durability of material.
,,	2661	Stevenson, A.	Boldness of design and successful construction of Skerryvore lighthouse, as shown by the models.
,,	2354	Vignoles, C.	For boldness of design of the Bilboa railway, as illustrated by the model and drawings.
,,	2662	Walker, J.	For boldness of design and successful execution of Small's & Bishop's rock lighthouses, as illustrated by models exhibited by the Corporation of the Trinity House.
,,	—	White, Brothers.	Excellence of quality of Portland cement.
Canada	29	Brown, J.	For the excellence of manufacture of his hydraulic cement.
,,	—	Stephenson, G. R., as representative of his cousin, the late R. Stephenson, M.P., F.R.S.	For the extraordinary boldness of conception and the great ingenuity of the construction of the Victoria Bridge, Canada.
N. S. Wales	420*a*	New South Wales Government.	For the great utility of the Fitzroy Government Dock, represented by the model.
,,	420*b*	Mort	For great utility of the dock, represented by his model.
Victoria	63	Knight, J. G.	For general good quality and interest attached to the collection of building stones exhibited.

HONOURABLE MENTION.

U. Kingdom	2237	Beart's Patent Brick Company	Bricks and agricultural drain pipes, of good quality.
,,	2243	Brown, R.	Tiles, bricks, &c., in colours, of good quality.
,,	2244	Brown-Westhead, M.	Hoist-governor, &c. Ingenuity of contrivance.
,,	2254	Clark & Co.	For novel application of corrugated steel.
,,	2662	Douglas, N. & J. W.	For their intelligent and energetic co-operation when Resident Engineers in charge of the construction of the Small's and the Bishop's rock lighthouses.
,,	2271	Eastwood, J. & W.	Bricks, tiles, &c. For goodness of quality.
,,	2282	Fison & Co.	Kiln tiles for drying malt, white bricks, &c. For excellence of manufacture.
,,	2707	Halpin, G., Engineer to the port of Dublin Corporation	For the successful construction of Fastnet lighthouse.
,,	2388	Keynsham Blue Lias, Lime, and Cement Company	Good quality of lime and cement.
,,	2310	Lawrence, Bros.	For ingenious modes of applying patent sluices, lifts, &c.
,,	2311	Lee, Son, & Smith	For their good manufacture of Scott's cement.
,,	2326	Part, J. C.	For the good quality of Martin's cement and plaster of Paris.
,,	2344	Stephenson, W., & Sons	Good quality of bricks.
Canada	31	Bulmer & Sheppard	For the excellence of their bricks.
,,	38	Gibb, T.	For the excellence of his white bricks and drain tiles.
,,	33	Missisquoi Drain Tile Company.	Drain tiles of good quality.
,,	—	Betts, E. L.	A collective honourable mention for the successful execution of the Victoria Bridge, and for the ingenuity displayed by Mr. Hodges in constructing the coffer-dams for the same.
,,		Hodges, J.	
,,		Peto, Sir S. M., bart., M.P.	
India	28	Sandys, T.	Mortar, cement, and concrete of good quality.
Queensland	75	Petrie, J.	Good quality of collection of building stones.
Natal	—	Natal Commissioners	Bricks, tiles, and earthenware pots of good quality.
N Brunswick	—	New Brunswick Commissioners	Models of bridges. For the utility of the works represented by the models.
N. S. Wales	465	Goodsell	Stock bricks. Good quality of material.
Nova Scotia	3	Howe, Prof.	Goodness of quality of the specimens of building stones.
,,	28	Scarfe, T.	Good quality of common and pressed bricks and drain tiles.
S. Australia	47	Priest, T.	Slabs of slate of good quality.
Tasmania	194	Commission for Tasmania	Good collection of building stones adapted to building purposes.
Victoria	18	Beechwod Local Committee	Collection of building stones of good quality.
,,	—	Glew, John	Bricks and tiles of good quality.
,,	410	Kelly, T.	Stoneware drain tiles of superior quality.
,,	455	Sandhurst Local Committee	Bricks and tiles of good quality and low price.
,,	456	Stieling, G. F.	Fire bricks of good quality.
,,	98	Victoria Kaolin Company	Block of kaolin. Good quality and utility of material.

SECTION B.—*Sanitary Improvements and Constructions.*

MEDAL.

U. Kingdom	2259	Cliff, J., & Son	Excellence of manufacture and material of the clay retorts for gas.
,,	2261	Cookey, E., & Sons	For their newly invented valve for distributing gas.
,,	2384	Finch, J.	Very much improved manufacture of porcelain bath in one piece.
,,	2291	Glover, G., & Co.	Ingenuity, completeness, and efficiency of apparatus for measuring gas, and for excellence of material and workmanship.
,,	2386	Jennings, G.	General excellence of articles exhibited, and novelty of application.
,,	2330	Perkins, A. M.	For his hot-water apparatus for heating rooms, &c.
,,	2399	Rosser, S. E.	For his system of desiccating and warming.
,,	2344	Stephenson, W. & Sons	Excellence of manufacture of earthenware gas retorts.
,,	2403	Spencer, T.	For the introduction of a new material for filtering water.
,,	2411	Woodcock, W.	For the excellence of manufacture of Gurney's stoves and warming apparatus.

SECTION B.—*Sanitary Improvements and Constructions (continued).*

HONOURABLE MENTION.

Nation.	No. in Catalogue	Name of Exhibitor.	Objects Rewarded, and Reasons for the Award.
U. Kingdom	2240	Bower, G.	Neat and economical gas apparatus for small establishments.
,,	2392	McKinnell, J.	Applicability, under certain conditions, of his ventilators to closed rooms and holds of ships.
,,	2393	Moore, J.	For his glass louvre ventilators.
,,	2395	Pierce, W.	General excellence of Huthnance's heating apparatus.
,,	2332	Porter & Co.	Neat and economical gas apparatus, adapted for small rooms and domestic use.
,,	2401	Smith, G., & Co.	Novelty of construction of cast-iron bath.
,,	2408	Underhay, F. G.	Ingenious construction of watercloset.

SECTION C.—*Objects shown for Architectural Beauty.*

MEDAL.

U. Kingdom	2230	Architectural Pottery Company	Mosaic, glazed tiles bricks, &c. For excellence of manufacture.
,,	2233	Bale, T. S.	Mosaic and ornamental floor, wall tiles, and glazed bricks. For beauty of design and excellence of workmanship.
,,	2238	Bellman & Ivey	Scagliola. High finish of articles exhibited.
,,	2423	Blanchard, M. H.	For articles in terra cotta applicable to architectural and decorative purposes.
,,	6833	Blashfield, J. M.	Terra cotta and pottery. Perfection of manufacture and beauty of form.
,,	6824	Boote, Messrs.	Tiles and pottery. For admirable treatment of material and good design.
,,	2425	Ecclesiological Society	For highly wrought and well understood wood carvings exhibited by the Council of the Architectural Museum.
,,	2430	Forsyth, J.	Model of marble font and cover for Lord Dudley. For beauty of execution and attention to the character of the foliage.
,,	2434	Jackson, G., & Sons	For success in introducing into England carton pierre for architectural and decorative purposes.
,,	203	Lizard Serpentine Company	Sundry works made of serpentine of good workmanship.
,,	204	Llangollen Slab and Slate Company	Enamelled slate work and large slate slab. For excellence of manufacture.
,,	214	Macdonald, A.	For specimens of granite used in building, decorations, memorials, and general purpose. Fine material and workmanship.
,,	2435	Magnus, G. E.	For the perfection to which he has brought the art of enamelling slate.
,,	2317	Maw, G.	For the excellence of the encaustic tiles and various articles exhibited.
,,	2313	McFarlan, W., & Co.	For admirable specimens of iron castings for architectural purposes.
,,	6873	Minton & Co.	Earthenware, majolica, parian tiles, &c. For perfection of manufacture, truth of execution, and beauty of design.
,,	269	Pearce, W., jun.	Inlaid serpentine and steatite tables, columns, &c. Choice material, well wrought.
,,	2440	Poole, H., & Son	Mosaic and other architectural and decorative works in stone and marble. For beautiful execution.
,,	2444	Serpentine Marble Company	Marble font and pedestals. Perfection in the adaptation of a beautiful material, and good workmanship.
,,	2440	Slater (architect)	For beauty of design of exhibits by Messrs. H. Poole & Son.
,,	2446	Thomas, John	Carved chimney-piece with room and cornice decoration, for her Majesty the Queen. Graceful composition and admirable execution.
,,	2317	Wyatt, Digby	For beautiful combination of forms and colours in the articles exhibited by Mr. G. Maw.
Malta	21	Darmanin & Sons	Mosaic work of good execution.
,,	22	Dimech, C.	Specimens of carving in stone. Elaborate execution and low price.
,,	18	Testa, M. F.	Stone carvings. For beauty of execution and low price.

HONOURABLE MENTION.

U. Kingdom	28	Birley, S.	Inlaid marble table of good workmanship.
,,	37	Bright, S., & Co.	Black madrepore vases and mosaic work of good workmanship.
,,	2426	Clay, C.	Inlaid marble table. Good workmanship.
,,	2427	Earp, T.	Architectural decorative carvings of good execution.
,,	206	Lomas, J., & Son	Polished Derbyshire marble table of fine workmanship.
,,	2433	Harmer, J. M.	Models of architectural ornaments of good execution.
,,	2294	Hartley, T.	Beauty of specimens of marbles.
,,	2441	Pulham, J.	Architectural decorations in terra cotta. For sound and durable material.
Malta	17	Francalanza, L.	Specimens of carved stone. For good execution and cheapness.
,,	10	Muir, G.	Specimens of carved stone. For good execution and cheapness.

CLASS XXXIV.

SECTION A.—*Stained Glass and Glass used for Decoration.*

MEDAL.

U. Kingdom	6721	Field & Allan	Stained glass windows. For excellence of ornamental work in Cinque-Cento style.
,,	6725	Hardman, J., & Co.	Stained glass windows. For general excellence of design, colour, and execution.
,,	6727	Heaton, Butler, & Bayne	Stained glass windows. For general excellence of design.
,,	6722 (*bis*)	Jones, E. B.	Stained glass windows. For excellence of artistic design and colour.
,,	6745	Lavers & Barraud	Stained glass windows. For general excellence of production.
,,	6734	Morris, Marshall, Faulkner, & Co.	Stained glass windows. For artistic qualities of colour and design.
,,	6735	O'Connor, M. & A., & W. H.	Stained glass windows. For general merit.
,,	6737	Powell, J., & Sons	Stained glass windows. For fine qualities of colour and general merit.

HONOURABLE MENTION.

U. Kingdom	6722	Forest, J. A.	Stained glass windows. For general merit.
,,	6723	Gibbs, A.	Stained glass windows. For general merit.
,,	6724	Gibbs, C.	Stained glass windows. For general merit.
,,	6731	James, W. H.	Enamelled window glass, &c. For general executive merit.
,,	6738	Preedy, F.	Stained glass windows. For general merit.
,,	6741	Ward & Hughes	Painted glass windows for St. Anne's, Westminster. For general executive merit.
,,	6742, 6743, 6744	Warrington & Sons	Stained glass windows of various periods. Collective mention for general merit.

MISMANAGEMENT OF PUBLIC WORKS IN INDIA.

IRRIGATION AND NAVIGATION IN THE MADRAS PRESIDENCY.

IN the public journals, reports were published of a banquet, given to Sir Arthur Cotton, at Willis's Rooms, January 31st, 1861; and upon perusing the speeches that were delivered upon that occasion, every lover of truth and justice must experience a feeling of painful regret at the extremely unfair manner by which one person is made to appropriate solely to himself the honour which, if due at all, ought certainly to be shared by many others whose names are not even mentioned. A stranger would be led to suppose that irrigation and navigation works in India had already been proved to be a great success, and that that success was solely due to the exertions and talent of one individual; and, while such statements are allowed to go forth to the world uncontradicted, it is in vain to look for any great or permanent improvements in India.

I have not the slightest personal animosity towards Sir A. Cotton, for whose character I, in common with numerous others in India, entertain the highest respect; but I trust that my respect for truth and justice will always greatly exceed that which I shall feel towards any single individual who, like the gentleman alluded to, has been so fortunate as to build a name upon other men's foundation, without attempting to acknowledge the sources from whence his assistance has been derived.

How far irrigation and inland navigation have succeeded in India; or, if they have succeeded at all, are questions that are at present far from being settled. How far this success, if proved, is to be attributed to Sir A. Cotton, admits of equal discussion.

I shall take the latter of these questions first; premising that I have personally inspected the irrigation works of the Godavery and the Kistna; and the statements I shall put forth will, I trust, be found upon investigation to rest upon the most trustworthy authority.

The great work of Sir Arthur Cotton, and to which allusion is so frequently made, is the Godavery Anicut. This work was originally projected by Mr. Topping, astronomer to the East-India Company about sixty years ago. Neither was the original idea due even to him. Anicuts have been known to exist in India many ages before the English had settled there; and their construction, although rude and faulty, was by no means so destitute of scientific principles as we are generally led to suppose. It is quite true that to Sir A. Cotton is due the merit of having worried the apathetic Indian Government into a reluctant consent to allow him to carry out Mr. Topping's idea; but, in admitting that, we admit almost the sole claim he has upon the public for superior distinction. The appointment of Sir Arthur (then Colonel) Cotton as engineer to the projected Godavery works was due mainly to the untiring energy of Sir H. Montgomery, the revenue commissioner of the Rajamundry district; and very soon after the commencement of the work, Colonel Cotton was, from ill health, compelled to abandon his post; and the charge of constructing the Anicut itself for a long time devolved upon Captain C. A. Orr, now Lieut.-Colonel Orr, the present Mint Master of Madras; to whom is mainly due any merit in overcoming the difficulties of that work; but whose name is scarcely even mentioned in connexion with the subject.

Indeed, many of the engineer officers employed upon the Godavery irrigation scheme are totally at a loss to conceive why Sir A. Cotton should be alone extolled for superior ability, as it is well known among them that to him belongs neither the merit of having designed* nor executed any of the principal works. It was, like most Indian enterprises, a kind of joint-stock affair, in which every officer took a share, and did the best he could; and to this may be chiefly attributed the blunders and want of uniformity that are everywhere so palpably conspicuous.†

With regard to the Godavery Anicut itself, with its locks, sluices, and calingulas, the least said about it the better. Viewed as an engineering work, it is certainly anything but creditable; after making every allowance for difficulties; all honour to the officers and overseers who so valiantly fought their way through obstacles they were so ill fitted to overcome; but small merit to

* Col. Cotton's designs were all altered by the Madras Government.

† A native Hindoo, named Veranah, is said to have been in reality the chief engineer; and the whole work is much more a native work than a European one.

the discernment of a Government who could intrust the execution of a work, costing about 180,000*l.*, to men of so little experience, without a better directing head. Sir Arthur Cotton himself states, that at the commencement of the work they had only three engineer officers, two of whom had never seen a brick laid;* and that the overseers, &c. were all equally ignorant.

A professional inspection of the Godavery works will fully bear out this statement: it is difficult to discover a single cubic yard of decent masonry or brickwork in the whole job. Science is completely ignored: everything depends for its existence upon mere mass; and defects and failures are everywhere visible. A North Country doctor, accustomed to the substantial engineering works of his own country, told the writer that the Godavery Anicut was a "most flimsy abortion;" and certainly experience has fully justified the sage criticism of our canny Esculapius. Every year the dam itself requires a large outlay to keep it in repair; and once it was breached and threatened with destruction; while the sluices, calingulas, &c., are being continually damaged. The annual cost of repairs is enormous. Its value gets less every year; and in a few years it will probably be quite useless.

The Kistna Anicut was constructed entirely under the superintendence of Capt. C. A. Orr—the gentleman whose name has been already mentioned in connexion with the Godavery scheme. Although not so long as the Godavery, it is a far more imposing work; and, notwithstanding numerous defects of construction and detail, is decidedly the greater work of the two. At first sight, its appearance is by no means contemptible; and, although heavy in design, there is a very good architectural effect produced by the uniformity of the various parts; while on the Godavery not one feature is visible to redeem the repulsive ugliness of the whole. Much of the masonry of the Kistna Anicut is bad; nay, almost execrable! but the piers of the arches are substantial and well built, and the foundations for the most part good. Even this Anicut is often dangerously breached; and the annual cost of repairs varies from 400*l.* to 500*l.*, exclusive of channels and locks. One of the most defective parts, both in the Kistna and the Godavery, are the sluices, which are a never-failing source of trouble.

The length of the four Godavery dams together is about 4,400 yards, and their cost nearly 100,000*l.* The length of the Kistna Anicut is only 1,200 yards, and its cost nearly 70,000*l.*; but it is broader, higher, and much more massive than the Godavery dams. How far these works have been successful to fulfil the objects originally contemplated is a matter of grave and serious doubt. In an irrigation point of view, they have certainly done much; although far less than the brilliant statements made by Sir A. Cotton might lead us to suppose. As works of navigation, I regard them as almost total failures; and I believe my opinion is every day gaining ground among those best qualified to judge correctly upon the subject.

For many months in the year the channels are so choked up with silt and sand that they are hardly passable for boats of the lightest draught. Often a boat sticks in the locks, and it requires the united exertions of forty or fifty men for a whole day to drag it through the mud. During the hot dry season of May and June the navigation is difficult,—sometimes impossible; and every autumn the channels have to be closed for one or two months; the sand, &c., dug out by native tank-diggers, and deposited in rude heaps along the sides; spreading fever and malaria all around; as few things in a tropical climate are more unhealthy than newly-excavated soil highly charged with decayed organic matter. The deposit left at the conclusion of each large fresh is often from 3 to 6 feet thick; and in many places the banks are broken; and, falling into the channels, assist in choking them up and presenting a most ruinous scene. Added to this, the locks are of different sizes both in length and breadth; so that a boat passing through one is never certain of getting through the next; the bridges sometimes so low that during a fresh a heavily-laden boat is in danger of sticking fast under the arch: several of the arches are cracked or broken, and the calingulas during a flood so full as to render it dangerous to pass for fear of being drawn into the vortex; and the actual cost of water-carriage, including all expenses, about 1½*d.*, per mile per ton, instead of one-eighth of a penny, as stated by Sir A. Cotton; while their progress against the stream is frightfully slow, often about ten miles a day, or less. Along the banks, and at the various stations, there is not one landing-place—no wharfs, no cranes, no sheds for storing goods—not even a mooring-ring to fasten a boat to: passengers upon the Godavery channels clamber in and out of the boats through mud and long grass; and coolies are seen dragging merchandise up and down the slippery mud-banks by all sorts of native contrivances.

Even as irrigation works, their permanent value is more than doubtful. The district engineers already complain that the channels are unable to supply anything like the quantity of water needed for cultivation. The beds of the rivers in front of the Anicuts are steadily rising; and sand-banks of a truly formidable character are rapidly forming; so that there is but very little doubt that in a few years the entire dams, with their supplementary works, will be buried beneath a mass of sand which no human means can remove.

If we turn from these to other similar works, the prospects are not more encouraging; the Anicut at Nelloor, costing about 10,000*l.*, has been completely destroyed;* and the one commenced at Kurnool by the Madras Irrigation and Canal Company, of which Sir A. Cotton's brother is chief engineer, and upon which about 8,000*l.* have been expended, is now condemned as useless, from being commenced in a wrong place.†

In Bengal, the Ganges Canal, which took more than thirty years to execute, and cost an enormous sum of money, has turned out almost a failure.‡ During the mutiny it was found of but little service for the transport of stores and troops; and during the past year a famine spread over the whole of the North-West Provinces, which this canal was supposed to render impossible; and in Tanjore, the irrigation works—probably the best in all India—were but very partially successful in staying a similar calamity.

If these statements are false, they can easily be disproved: if they are true, they look more like a failure than a success.

Indeed, the policy of damming up large rivers by immense masses of masonry appears even more than doubtful. All hope of even rendering such rivers navigable at any future time is entirely cut off; as the Anicut, even if breached, or covered with sand, can never be removed; and the beds of the rivers are almost certain to rise to the level of the top of the dam, after which the Anicut itself will be quite useless.

It may be asked, then, am I opposed to irrigation works in India? I answer, by no means: let us have irrigation, and let us have navigation channels; but let them be quite distinct from each other; and let them both be properly formed upon scientific principles, and not upon the rude, barbarous, and cheap native system that has hitherto been adopted: let them be entrusted to properly-trained civil engineers, instead of raw military cadets and officers utterly destitute of European experience. And let us hear no more of dividends of thirty, forty, or fifty per cent.: ten per cent. upon the outlay is quite enough to satisfy any reasonable capitalists: all above that is uncertainty and ultimate delusion.

Since the above was written, I find the public journals, &c., almost universally admit that canal navigation, in nearly every part of India, has turned out *a total and complete failure*; and that irrigation and navigation for the future must be kept quite distinct. One journal states that the navigable canals (so called) do not pay one-tenth of their working expenses. The real cause of the failure, I believe to be the ignorance of the engineers, and the shameful way in which most of their works have been executed. INDIAN.

* See Colonel Cotton's pamphlet entitled "Profits of British Capital on Indian Public Works," page 2: published by Richardson Brothers, Cornhill. Price 1*s.*

* It has since been rebuilt at a cost of 13,000*l.*, and even now the bed of the river is nearly level with the top of the dam.

† See Major Orr's Report, published in January, 1861.

‡ In Col. Baird Smith's Report upon the Famine in Bengal, it is stated that the Ganges and Jumna Canals irrigate about one-fourth only of the country through which they pass: one-fourth more is irrigated by native wells; and one-half is left without any irrigation at all.

THE DISTRESS IN LANCASHIRE.

SOME time ago, contrary to the opinion of the chief part of the Lancashire manufacturers, and of several of our contemporaries, we indicated the pressing necessity which existed for vigorously organizing means on a scale commensurate with the occasion for affording, so far as a public subscription could do, relief to the distress which has fallen upon the vast population who depend on the cotton trade for their daily bread. At that time the most influential of the Lancashire cotton spinners repudiated assistance, and in consequence a check was put to the tide of subscriptions which otherwise would have flowed from all parts of the country. Now, each day's painful experience shows how valuable this aid would have been in the present emergency, when all the resources of the poor-laws, public subscription, and, we fear, the aid of the Government also, are likely to be required for the purpose of feeding the hundreds of thousands of men, women, and children, who, without any fault of their own, are deprived of their regular employment.

Up the present time, Mr. Villiers, the president of the Poor-Law Board, has been hopeful that the Poor-Laws would be sufficient to meet the evils of this crisis. This gentleman has, however, said since, in the House of Commons, "he was bound to state that in the private letters, within the last week or ten days, of the gentleman whom the Government had sent down to report on the state of the manufacturing districts, there was something less hopeful in their tone with respect to the mitigation of the distress; and, indeed, as to the means of providing for it by voluntary contributions, so much relied upon as providing adequate resources." In some parts of Lancashire the poor's-rates have risen as high as 18*s.* in the pound; and, without some sudden and favourable change in the position of affairs in America, or a more equal distribution of the parish rates of this great county, this enormous tax for the support of the unemployed poor must constantly increase. When these great taxes press so hard upon the ratepayers who are shopkeepers, or who are in other ways depending on this class of workers for their subsistence, many of whom have ventured their capital and credit in supplying, in the present hard times, those who have been for long good and honest customers to them for various necessaries of life, it is clear that, if the distress is continued, many of them, instead of contributing to the rates, must actually fly to them for support.

We have before us, just now, reliable letters from intelligent and well-conducted workmen, which show that it is only by painful and careful personal investigation that any idea of the extent to which distress in Lancashire at the present moment prevails can be appreciated. Families are, in thousands of instances, next door to starvation; for, as the poor-law relief is at the present time administered, it is (without the people go into the unions) insufficient, in most cases, for but little more than the necessary payment of house-rent.

In Preston alone, in one week, 500 hands have been cast idle in consequence of the stoppage of some mills, and the curtailment of working-time in others. In Wigan, one-fifth of the entire population is receiving relief; and in Blackburn, the proportion is said to be larger. At Chorley, the expenditure of the parish is double the ordinary sum. At Walton-le-dale, the numbers of those applying for out-poor relief for several weeks have been as follows:—326, 340, 363, 452, 447, 471, 496, 526, 577, 590, 594, 600; and the stoppage of more mills will, as time passes on, constantly increase those numbers.

From other quarters comes the same sad account that, as week after week passes, the distress increases, and soon the *cotton famine* will prevail, rendering more homes destitute, and bringing the dwellers in them to the brink of starvation; and it should be borne in mind that we are now past the middle of summer, and that ere long the pinching winter must come.

So far the cotton-spinners have set a worthy example of patience in their sufferings which must be admired by all; and although hunger and discomfort have prevailed, we have heard no loud and fierce demonstrations: and it is a most noteworthy fact that, notwithstanding all this privation, crime, throughout those districts, has not increased. The men and women of Lancashire, guided by an advanced intelligence, are waiting patiently, hoping for that assistance from various quarters which their case so worthily deserves.

Looking at the aspect of affairs in America, on the Southern States of which, in spite of thousands of warnings, we have relied for the raw material of such a vast industry, the prospect is most gloomy; for if the contending states are allowed to go on much longer without the intercession of the civilized governments of Europe, we have no hope of cotton from that direction; and even if the present wholesale destruction of life by the weapons of war, and to a far greater extent by pestilence, is put a stop to, we have still a serious difficulty to contend with,—fresh supplies of cotton must be grown. We may hope in time for considerable quantities from India and

elsewhere; but unfortunately, while the cotton grows, the spinners and their families must starve if they are not helped.

Under the most favourable circumstances which the most sanguine can just now foresee, there will be an increasing amount of suffering, which it is most important to mitigate; but up to the present time the amount of relief from the country generally (owing, in a great measure, to the causes to which we have referred) has been very small: the funds which have been supplied from the metropolis for the mitigation of the distress in Lancashire amount to only about 7,600*l.*,—a sum but barely equal to the loss of one week's wages in one of the small towns of this county. This sum has been distributed amongst the various districts; but in order to show how very limited this assistance is, it may be mentioned that in the period of a week 12,000 persons were relieved at Preston, at a cost of 350*l.* This is at the rate of 7d. a week for each person.

When we think of the immense sums which were collected at the time of the Irish famine, and at various other periods for aid on the occasion of home and foreign calamities—for instance, on the recent occasion of the accident at Hartley Colliery—we are convinced that this matter only requires to be rightly brought before the attention of the inhabitants of the metropolis and the other parts of the kingdom to insure the subscription of a sum which is so necessary, and which would be the means of preventing a large amount of distress.

The time has now come for a general and vigorous movement in this matter of life and death.

The cotton manufacturers have largely contributed towards the local subscriptions, and by working many mills at a considerable loss; but these means must fail, and the only recourse for the support of all the multitude will be in the public subscriptions, poor-law relief, or Government assistance. As regards the poor-law relief, it is clear that it cannot be much longer raised in the suffering towns, in the enormous sums in which it is required; and it has been suggested that a general rate should be levied on the 8,000,000*l.* a year, which is the rateable value of Lancashire. To a great extent in this county property of every description has increased in value by the advance of the cotton trade; so that, to a certain extent, it is but fair that the present loss should be more equally borne.

As we have before said, every endeavour should be made to prevent the workpeople from breaking up their homes and becoming inmates of the unions and workhouses, where the young especially are sure to be deteriorated. In the end, out-door relief will be found to be the cheapest provision; but, at best, the assistance afforded by the Poor-laws to those who have been accustomed to live upon the wages of their industry, is a miserable provision; and there are many of the Lanaoshire spinners who would rather perish than receive aid from the parish. In fifty ways, therefore, a public subscription would be of service; to many it would be actually the means of saving life; with others it would help out the parish dole, by supplying soup, coal and other necessaries of life. It might save the houses of worthy people from the levying of distress upon their furniture, provide them with needful covering from the cold, and be the means of enabling thousands to abide with something like patience for the coming of those days when they will have an opportunity to work, and will again gladly resume their labour.

WHAT IS IRON?

THIS is a question that has recently been asked in the *Times*, which gives an excellent summary of the principal phases of this extraordinary metal, while at same time admitting that the question is one which at present cannot be fully answered.

So remarkable are the properties possessed and the changes assumed by iron; and so different is it in many of these respects from all the other metals; that some men of science have doubted whether it ought to be classed with them, or regarded as a metal at all; and so distinguished above all others did it appear in the eyes of the old chemists, that they occasionally spoke of "the four elements" as "fire, air, water, and iron," just as they synonymously named them "fire, air, water, and *earth*;" and some of the alchemists speak of basing the universal transmutative agent on iron;—Van Helmont, for example; who says, in his usual mystical sort of way, while speaking of "the iron age," that iron, "through multifarious mortifications and advances, may be gradually improved, transmuted, and lost, through fire, and be changed into the gold of love and unity, which is fix in the fire;" and that "it can be changed or transmuted into grass, herbs, trees, and corn." So far from thinking it not to be a metal, however, he says it has "a nearer alliance, in many respects, with all the metals, more than they have with one another." As to the transmutation of iron into vegetable natures, we must explain that some of the old chemists seemed to have the notion that carbon was a product of metallic transmutation from "the soot of metals," thus elevating the mineral into the vegetable kingdom. But it was not in the old and dark (?) ages only that iron was regarded as a subject of transmutation. The late Dr. Samuel Brown, a well-known chemist, stated positively and decidedly that he transmuted iron into rhodium, one of those curious metals which are found associated (as iron itself so often is) with gold in nature.

The pre-eminently distinguished, if not cosmical and universal, nature of iron, clearly appears not only in the fact of its constituting the bulk of aerolitic masses in general; but also in the no less remarkable fact that *it* constitutes the grand agent whereby the magnetic force of nature (a cosmical force; so far, at least, as our earth is concerned; and, as many believe, the planets in general, and the sun also) manifests itself. The magnet, or magnetic stone, is an oxide of iron; and, by a stroking process strangely like mesmerism, a piece of iron is readily convertible into the magnetic needle, whose cosmical and wonderful propensity it is continually to point to the poles of the earth.

Of the chemical and other properties of iron in its different states, the writer in the *Times*, as we have said, gives an excellent summary; which, though introducing a few words of our own on the subject in the outset, it was our intention merely to condense.

Pure iron, he remarks, is almost unknown. What we call iron is the metal combined or associated with other elements, which, though present only in small quantity, may, according to their number and proportion, communicate to it widely different properties. These elements are chiefly carbon, silicon, sulphur, and posphorus; but the most important is carbon. It is a simple variation in the proportion of carbon, within the limit of about 5 per cent., which causes the metal to appear in the three well-known states of wrought iron, steel, and cast iron. As the proportion of carbon increases, the metal passes insensibly through these successive stages. It has recently been urged that another element, nitrogen, is an essential constituent of steel; but this theory has been hotly disputed. Sulphur is the most frequent cause of *red-shortness*, and phosphorus of *cold-shortness*, in wrought iron. One part in a thousand of any one of these elements will produce a decided effect on the quality of the iron, either separately or combined; hence the endless diversity in quality of the iron, steel, and pig iron, which we meet with in commerce. Then, again, in the case of wrought iron and steel, the quality of the metal may be greatly modified by the mechanical treatment which it has received; and, in the case of pig iron, by the conditions under which solidification after fusion has occurred. It is a remarkable fact that, so far as our knowledge extends, iron is the only metal which is capable of acquiring such varied and useful properties by the operation of such simple and apparently trivial causes as those which we have just considered. One metal is thus made to act the part of several. The defective state of our knowledge of the chemistry of iron is the opprobrium of modern chemists. There is no metal of which the *science*, properly so called, is less understood.

WORM AND ANT PROOF AUSTRALIAN TIMBER.

WITH reference to what was said in our columns on Tasmanian timber on the 5th of July, it may be interesting here to give an abstract of some information as to Western Australian "mahogany," forwarded to us by a correspondent, a captain in the Royal Engineers. The timber alluded to, like that of Tasmania, or Van Diemen's Land, may be seen in the International Exhibition.

The timber in question is commonly called "mahogany" in Western Australia, and it very much resembles that wood in appearance. The native name is "jarrah," and the botanical name of the tree "Eucalyptus." It has properties which make it peculiarly applicable for works in the tropics, or on the sea-coast; viz., that neither the white ant nor the sea-worm will touch it; and that it suffers very little from exposure to the sun or atmosphere. It can be delivered in India or the Mauritius in picked logs, or in balk (provided a quantity of not less than 200 loads be purchased at one time), for less than 4*s.* a cubic foot; and if arrangements were made for a larger quantity—say of not less than 400 loads)—it might be delivered for 3*s.* 6d. a foot, or less.

Captain Wray, Royal Engineers (not our correspondent) says, "As regards its properties, I have myself used upwards of 3,000 loads of it in buildings, jetties, and bridges; and I have examined timbers which have been exposed to the action of the white ant and sea-worm, in situations where it would have been destroyed if liable to destruction from either of these causes; and I never saw any penetration deeper than the sap-wood, though deal, or other timber close by, was completely eaten away. This indemnity from destruction is generally attributed to its containing large quantities of gum resin. The strength and elasticity are about equal to Riga fir. The weight of the timber makes it inapplicable to movable joiners' work, such as doors or sashes; but this is immaterial, as the white ant, only working in the dark, will not attack these, unless a building is left unoccupied for a lengthened period. I know of no objection to it, except that it is somewhat slow to season; and, if exposed before seasoned, will fly and cast perhaps rather more than other timbers."

The consulting engineer of the Madras Railway says, "The wood is well spoken of by our engineers."

Some specimens in the Great Exhibition have been in use as piles, &c., &c., for periods of from twenty to thirty years, without receiving the slightest injury.

THE FEMALE SCHOOL OF ART.

ON Thursday, the 10th inst., the annual distribution of national medallions, local medals, and other prizes took place at the Female School of Art, Queen-square, now under the especial patronage of the Queen. There was a large attendance of students and their friends.

Professor Donaldson took the chair; and after having presented the various awards to the successful students, with a kind word of advice and encouragement to each, he made an appropriate and interesting address on the subject of art study generally. The Rev. Emilius Bayley, rector of St. George's, Bloomsbury, one of the trustees of the school, then addressed a few admonitions to the students, giving a word of caution to the successful, and a word of encouragement to the unsuccessful.

There were four national medallions, twenty-nine local medals, and twenty prizes distributed, and five students had free studentships given to them. We may notice that the Honiton lace dress and veil, lately worn by Her Royal Highness the Princess Alice, was designed, by command of Her Majesty, by Miss Ruth Coxeter, a student of this school.

After a vote of thanks to the chairman the meeting terminated.

Subscriptions have not followed the meeting at the Mansion House to the extent expected; but it is to be hoped that they may yet do so.

COMPETITIONS.

Gloucester Market Improvement.—On the 13th of January last, seven designs for the improvement of the market, with letters under mottoes, were received by the town-council. The amount of each estimate was taken down, and the accompanying letters were placed in an envelope and sealed: "Faith and Hope," 3,000*l.*; "Mittimus," 2,938*l.* 1*s.* 9d.; "Experientia docet," 2,942*l.*; "City Arms," 2,982*l.* 15*s.* 6d.; "Veritas," no amount named; "Smithfield," 3,926*l.* 7*s.* 7d., and 2,975*l.* 13*s.* 1d.; "Do I suit your requirements?" 2,997*l.* 18*s.* 7d. The Chamberlain was desired to report on the plans; and after some other procedure the subject came again before the council last week, when it appeared that a committee to whom the matter had been referred had resolved to recommend those marked "City Arms" and "Smithfield" as the most desirable; the others to be returned, and a premium of 25*l.* to be given to the designer of the second-best plan; the plan to become the property of the council. At a subsequent stage of the proceedings last week, Alderman Castree moved that the letters accompanying the plans marked "Smithfield" and "City Arms" be opened. The Mayor then read the letter of "Smithfield;" from which it appeared that Mr. Robert Griffiths, architect and surveyor, Bridgnorth, was the designer of the plans; and the

town-clerk said the plan marked with the "City Arms" was sent in by Messrs. Medland & Maberly. Alderman Castree moved that the letters accompanying the other plans be not opened; and that an advertisement be inserted in the *Builder*, stating that the plans of "Smithfield" and "City Arms" had been accepted, and that the authors of the other plans might have them returned on application to the Chamberlain. The motion was unanimously agreed to.

Cheltenham Cemetery. — About thirty designs for the proposed cemetery at Cheltenham were sent in, and six were selected by the committee for the consideration of the whole Board; viz.;—9, Palmam qui meruit ferat; 13, Trefoil; 15, Labor et Spes; 16, W.; 17, Spes; 20, Faith. On Wednesday in last week the premiums were awarded; the first (by the unanimous vote of the Board), to the design marked W., made by Mr. W. H. Knight, of Cheltenham; and the second to Spes, by Messrs. Medland & Maberly, of Gloucester.

Oxford Workhouse.—The new committee have advised the guardians to increase the maximum expenditure on the proposed new workhouse, from 7,000*l.* to 9,000*l.*; the workhouse to be built in sections; and that advertisements be forthwith inserted in the usual papers. The report of the committee has been adopted at a special meeting of the Board; the new plans to be sent in on or before 19th August. At the same meeting a letter from Mr. Evans, builder, was read, offering to amend his estimate, and execute Mr. Fisher's plan for 7,000*l.*; but the Board rejected the offer. A letter from Mr. J. Castle, architect, was also read, claiming 197*l.* 16s. 6d., for taking out quantities and preparing estimates for builders for carrying out his plan; but the Board were of opinion that, though Mr. Castle was asked to modify his plan, they were not in any way indebted to him.

Market Weighton (Yorkshire). — On Monday last, the committee of the Yorkshire Roman Catholic Reformatory adopted the plans prepared by Mr. M. E. Hadfield for the new church, and additional apartments about to be erected at the Reformatory. The new church will be in harmony with the original monastery, built from the design of the same architect. It will consist of nave, chancel, organ or choir loft, spacious sacristies, and confessionals; a cloister, 140 feet long, in continuation of the present one, terminated by a square tower and belfry, and having a cross corridor for the access from the reformatory, which is perfectly distinct from the house occupied by the director and his colleagues. Provision is made for a still further extension, and the heating apparatus is also provided. The work is to be commenced forthwith. The buildings will be constructed of white brick, with stone facings. The nave will have an open roof; the chancel ceiling being panelled in wood.

SHEFFIELD.

The New Club House.—The new house which the members of the Sheffield Club are erecting in Norfolk-street is approaching completion. The streets are unfortunately too narrow to permit the new erection to be seen to advantage. The object of the architect (says the *Local Independent*, in describing it) has been to give to the building the character of a gentleman's town mansion. It looks like one of the family houses of Grosvenor-square. It is built of brick, with dressings of Steetley stone, and other enrichments; and is ornamented by carved medallions of her Majesty and the Prince Consort. To obtain a bay-window and a rectangular arrangement of the rooms, it is erected at right angles with Mulberry-street; and the Mulberry-street front is set back three feet to secure light for the basement story. The building is guarded from the street by a stone balustrade, supporting two tripod lamps. The height from the level of Norfolk-street to the top of the battlements is 54 feet. The principal feature on the first floor is the reading-room, 40 feet by 28, occupying the whole front towards Norfolk-street, lighted by four windows, which open upon a balcony. It has a fireplace at each end. Over the reading-room is the billiard-room, of similar size and form, lighted from the roof through ground plate glass. On each of these floors the rooms are 14 feet high. In the attic story are the bedrooms of the steward and servants of the house. The basement story is occupied by kitchens, pantries, &c., and has a communication with Mulberry-street. The balustrade of the grand staircase is of iron, specially designed and electro-bronzed by Messrs. Walker & Hall's process. The cost of the building and site is about 7,000*l.* The architect is Mr. M. E. Hadfield; and the builders are Messrs. Craven.

The New Victoria Hotel.—This building is being fitted up and furnished, with a view to its being opened during the present month. It is built on an elevated site in front of the Victoria Station, and at the end of the Cattle Market. The building consists of a front and two wings, having each four stories above the level of the entrance to the station, and a basement story beneath. The hotel comprises about fifty bedrooms, in addition to servants' apartments, and ten sitting-rooms, in addition to the two coffee-rooms. There is, moreover, the basement story, which extends under the kitchen as well as under the entire front and wings. About half of the basement story is occupied with servants' offices of various descriptions, and the remainder with wine, beer, and other cellars. Mr. Hadfield is the architect.

IRISH BUILDING NOTES.

ALTERATIONS and additions are about to be made to the National Bank, College-green, Dublin, which will double the present accommodation. The whole of the space set apart for the public, together with a corridor 65 feet in length, will have an encaustic tile pavement, containing 1,600 feet superficial. The principal feature of the addition will be the ceiling of the cash office, measuring 55 feet by 45 feet, the greater part filled in with ground plate glass. A hemispherical dome, 30 feet in diameter, and supported on ornamental metal columns 19 feet high with curved wood capitals, springs from the centre of the ceiling. The framing of the lower part of the dome, to where it narrows to 22 feet diameter, is of timber, filled in, panelled, and moulded in plaster. Over this level the framing is of iron filled in with plate glass; the centre pane being 12 feet in diameter. Enriched panelled compartments are formed between the walls and dome all round; the panels glazed throughout, and the greater number of them with semi-cylindrical panes in wrought-iron frames, with groin ribs at angles. The spandrels are filled in with a flowing ornament. Mr. F. W. Caldbeck is the architect. The quantities were supplied by Mr. Doolin.

The new Roman Catholic church of Saints Peter and Paul, off Patrick-street, Cork, is in a very forward state, the roof being almost completed. The total length of the nave and chancel is about 150 feet by 35 feet in breadth: the total length across the transepts is 82 feet by 18 feet in breadth. The roofs are, we understand, covered with felt. The total height of the tower and spire will be 232 feet; only 54 feet of which is now erected. Black limestone, Cork red, and Sicilian and Galway green marbles are used internally. Caen and Mansfield stone, limestone, and old red sandstone are used externally. The architects are Messrs. E. W. Pugin and G. W. Ashlin. The builder is Mr. Barry McMullen; the clerk of works, Mr. T. F. Ely.

THE VICTORIA FOUNTAIN, IN VICTORIA PARK, LONDON.

A VIEW, section, and plan of the magnificent fountain, built at the cost of Miss Burdett Coutts, from the designs of Mr. H. Darbishire, architect, and which was recently inaugurated, will be found in our volume for 1861.* We may repeat that its arrangement is octangular, and consists of a podium, or base, 40 feet 9 inches diameter, and 3 feet 6 inches high; and of a superstructure, 24 feet 6 inches diameter, and 55 feet high. The podium contains eight flights of steps, 6 feet 4 inches wide, leading to the superstructure. Its masonry consists of Portland and Kentish ragstone; Gaseby stone being employed for the steps and paving. The superstructure is divisible into an exterior and an interior octagon. The former consists of eight piers of polished Peterhead granite, with carved capitals of Aubigny stone, from which spring moulded arches and groins. The height of the piers is 18 feet 6 inches; that of the crown of the arches is 25 feet above the podium. The spandrels of the arches contain moulded panels with slabs of polished marble. Above these rises the principal cornice, composed of arches, brackets, and pendants, enriched with red and green marbles, and surmounted by a perforated parapet. The total height to the top of the parapet is 34 feet from the podium.

The interior octagon is 13 feet 4 inches diameter, or 11 feet 2 inches less than the arcade by which it is surrounded. Its base is three steps, or 1 foot 6 inches above the top of the podium. Four of its sides are occupied by the fountains; three are filled with marble panels and inserted tracery; and on the eighth is situate the entrance to a chamber which affords access to the water-supply and roof. At each angle a polished shaft of Peterhead granite, 6 inches diameter, rises to the height of the external piers, and is connected with them by moulded ribs which intersect the groined roof of the arcade.

Each fountain consists of a grey Aberdeen granite pedestal, with bronze enrichments, containing a bason to receive the water, which is supplied by a Sicilian marble figure in a fluted niche above it. The head of the niche is canopied, carved, and filled with tracery. The drinking-cups are of bronze, silver-plated on the inside, and on the outside bearing Burton's adage:—"Temperance is a bridle of gold." The panels of the alternate sides of the octagon are filled with slabs of Connemara green marble, separated by a band of emperor's red marble, bearing the following inscription:—"The Victoria Fountain, given anno Domini 1862, by Angela Georgina Burdett Coutts, for the love of God and country." This inscription, and the inserted tracery above it, are filled with green mastic. Foliage and armorial bearings occupy the upper portion of the doorway leading to the interior of the building. They are enclosed by a label, upon which is carved, in letters of high relief, part of the first verse of the twenty-fourth Psalm:—"The earth is the Lord's, and all that therein is" (*sic*). The door is of oak, and contains panels of bronze grille. Both the exterior and interior octagons are covered by a timber roof, which springs 1 foot 9 inches above the top of the perforated parapet, and rises to the height of 55 feet above the podium, or 58 feet 6 inches above the ground-line. Clock-dials, and gablets filled with green glass, occupy its alternate sides. The covering and the ornamental details connected with it are of lead. The cresting upon the angle ribs is of wrought-iron, and the vane is copper-gilt.

* Vol. xix. p. 320.

ANOTHER IRRUPTION OF THE FLEET SEWER.

WE are sorry to hear that another serious outbreak of the Fleet Sewer, and inundation of the works of the Metropolitan Railway, took place on Wednesday, consequent upon the heavy storm with which the metropolis was visited. Between four and five o'clock, as the workmen employed at the new station erecting at King's-cross and uncompleted portion of the tunnel at the corner of Acton-street, Bagnigge-wells-road, were busy, they were alarmed by a sudden rush of water into the works. So rapid was the influx of the water, that those at the bottom of the works were up to their knees before they could extricate themselves, and were obliged to leave their clothes and tools behind them. In less than ten minutes the water was 15 feet deep, reaching up to the roadway, and displacing and cracking the huge timber shores like matchwood. It was found that the storm-water pouring down from the high land had broken through the wall of the diverting sewer at the corner of Caledonia-street, York-road; and, finding its way into the channel of the old sewer, had forced an entrance into the railway works. In about an hour, the flow of the storm-water having subsided, a body of labourers were set to work to repair the breakage, which it is hoped will be effected by an early hour this morning. In the meantime, the railway works at this portion of the line are necessarily suspended. In Victoria-street, at the scene of the late accident, damage also occurred.

STAINED GLASS.

Winchester Cathedral.—The workmen of Messrs. Ward & Hughes, of London, have placed in the window over the entrance to the south aisle of the cathedral from the close, the memorial, in stained glass, provided at the expense of Mrs. Pretyman, as a monument to her late husband. The window contains six lights, which have been filled in with six of the leading events in the life of the apostle Peter. The subjects are the Calling of Peter; the Descent of the Holy Ghost on the Day of Pentecost; Peter's want of faith; Christ's Charge to Peter; Peter's Vision; and the Release of Peter from Prison. The tracery lights of the window are filled in with angels bearing the emblems of Faith, Hope, and Charity. At the base of the lower lights, and continued upon a brass plate attached to the stonework, is the inscription.

ON THE LAWS OF NATURE'S VENTILATION, AND THEIR APPLICATION IN CONSTRUCTION.*

VENTILATION has for its object the renewal of the air in dwellings and other edifices used by man; in the carriages of various kinds he employs for locomotion; and in buildings occupied by such of the useful animals as horses, cattle, sheep, and dogs;—in other words, to replace air that is deteriorated by air which is pure. If nature maintains, as we know is the case, a constant circulation of the water in the sea, that it do not become stagnant and so unwholesome to the living creatures therein; it is comforting to know that provision has likewise been made to maintain the life-giving air—much more liable to corruption than water—in unceasing motion.

But what are these ordinances of nature which govern the atmosphere in the performance of its grand and multiform offices? An answer, were I to attempt it, would demand too much of my space; and I therefore refer the reader for this information to a remarkable work, entitled "The Physical Geography of the Sea, and its Meteorology," by Captain Maury, in which he will find this matter fully discussed. From this volume I transcribe the following passages, as bearing on the subject of my paper:—"There is no employment more ennobling to man and his intellect than to trace the evidences of design and purpose which are visible in many parts of the creation. Hence, to the right-minded mariner, and to him who studies the physical relations of earth, sea, and air, the atmosphere is something more than a shoreless ocean at the bottom of which he creeps along. It is an envelope or covering for the distribution of light and heat over the surface of the earth: it is a sewer into which, with every breath we draw, we cast vast quantities of dead animal matter: it is a laboratory for purification, in which that matter is recompounded and wrought again into wholesome and healthful shapes: it is a machine for pumping up all the rivers from the sea, and for conveying the water from the ocean to their sources in the mountains: it is an inexhaustible magazine, marvellously stored." . . . "Upon the proper adjustments of the dynamical forces which keep up these ceaseless movements of the atmosphere, the life of organic nature depends. If the air that is breathed were not taken away and renewed, warm-blooded life would cease: if carbon, and oxygen, and hydrogen, and water were not in due quantities dispensed by the restless air to the flora of the earth, all vegetation would perish for lack of food. That our planet may be liable to no such calamity, power has been given to the wayward wind, as it 'bloweth where it listeth,' to bring down from the pure blue sky fresh supplies of life-giving air wherever it is wanted; and to catch up from the earth, wherever it may be found, that which has become stale; to force it up, there to be deflagrated among the clouds, purified and renovated by processes known only to Him whose ministers they are. The slightest change in the purity of the atmosphere, though it may be too slight for recognition by chemical analysis in the laboratory, is sure to be detected by its effects upon the nicer chemistry of the human system; for it is known to be productive of disease and death. No chemical tests are sensitive enough to tell us what those changes are; but experience has taught us the necessity of ventilation in our buildings, of circulation through our groves. The cry, in cities, for fresh air from the mountains or the sea, reminds us continually of the life-giving virtues of circulation. Experience teaches that all air, when pent up and deprived of circulation, becomes impure and poisonous."†

The horizontal movement of the atmosphere varies from nothing to upwards of 100 miles an hour, and is measured in our observatories and other places by a simple intrument called the self-registering anemometer. As early as the middle of last century the celebrated Smeaton, in his "Enquiry" concerning the natural powers of water and wind to turn mills,‡ informs us that the air's movement of one mile an hour is hardly perceptible to the feeling; that from 4 to 5 miles is a gentle and pleasant wind; from 10 to 15 miles, a pleasant brisk gale; from 20 to 25 miles, the breeze is strong; from 30 to 35 miles, a high wind; 40 miles is very high, and 50 miles is a storm.

The anemometer teaches us that this horizontal motion of the air varies in a locality at different seasons of the year, and also very considerably in different parts of the same country. Thus, while the atmosphere's mean horizontal motion at Liverpool, for 1860, was, in the first quarter of the year, 400 miles a day, or 16 miles per hour, it was only 290 miles per day in the fourth quarter; the average daily movement for the year being 327 miles, or 13 miles an hour. With this let us compare what the registrar-general says of London, in his annual report for 1857:—"The peculiar meteorological phenomena of the year," he writes, "are the high temperature and the slowness of the wind's movements. The temperature was 2 degrees above the average of the preceding 17 years: the wind, instead of moving at the average rate of 110 miles a day, passed over London at the rate of 81 miles daily during the fifty-two weeks."* Here, while the wind's mean daily movement at London is said to be only 110 miles, or about 4½ miles an hour; at Liverpool, on the average of the three years ending with 1860, it is no less than 321 miles a day, or 13 miles an hour,—a difference greater than one would expect, and the cause of which I am unable to explain.†

The fact being thus established that the vital air is in ceaseless motion,—ever seeking to displace air that is stagnant, and so more or less effete, by pure air,—we have next to inquire from what quarters, or towards what points of the compass, the air stream mostly flows; because a knowledge of this will guide us in some very important particulars in planning buildings with a view to their ventilation, especially in reference to the choice of the most suitable aspect for the front elevation, for the entrance-door, for the windows, kitchens, for the latrines, and for cesspools, when the latter cannot be dispensed with. In Manchester the direction of the atmospheric movement, during the year, I find to be as follows—(the calculation is on the average of five years):—Winds from the south-east, south, south-west, west, and north-west, prevail 279 days; leaving for other winds, namely, from the north, north-east, and east, 84 days only. Hence, with a map of Manchester and these figures, one can readily find the windward and the lee sides, and so ascertain the movement of the smoke-cloud towards different quarters of the city and neighbourhood. London has its westerly quarter, where the aristocracy dwell, because *that* is the windward side of the metropolis; and the same remark is applicable to all our large cities, in every one of which the north-eastern quarter, being the lee side, is, generally speaking, occupied by the meanest description of dwellings. Indeed, I have always observed that houses of the better class, erected on the east and north-east sides of our large towns, gradually lessen in value; and are, in course of time, abandoned by the wealthy inhabitants. A history of change, in the rank of the occupiers of dwellings on the lee side of our old cities, would afford curious revelations of mutation. I well remember, when a student in Glasgow, visiting pauper patients in tenements on the eastern side of the city, understood to have been occupied at one time by families of the aristocracy.

Having briefly stated what I mean by the laws of nature's ventilation, I now proceed to show the application of these laws in the construction of dwellings and other edifices; and first of cottages.

A properly-constructed cottage is, in a sense, alike necessary to the health and morals of a family.

Single and Double Honeycombs.—In all our large towns thousands of families occupy cottages in which there is only one room to live in; and one where all the members of a family, of both sexes, pass the night. The name honeycomb is from the rooms resembling in certain respects the cells of the bee,—that is, placed back to back against a common wall. In Manchester, Salford, Sheffield, and Liverpool—in the latter city more especially—the double honeycombs are very numerous; whilst in Leicester I found, when there a few years ago, that many of the dwellings of the poor are single honeycombs; that is, each row of these cottages rests against a wall, as if built against the face of a rock. Of course the apartments in the single and double honeycombs alike do not admit of nature's ventilation. No cottage ought to have less than four rooms—two on the ground and two above,—with windows behind corresponding to those in front; and the entrance and back doors should be face to face, to secure a frequent renewal of the air.*

A Pair of Semi-detached Houses.—There are a number of residences of this description in and around our city, mostly of large size, and yielding a high rent. I need only to direct attention, first to the ground-plan, and then to the chamber-plan, to satisfy any person of intelligence that both are faulty. In the first place, the entrance-door and the porch do not conduct *directly* to the hall, whilst the hall itself ends at the median wall; in consequence of which the arrangement of all the apartments tends to impede a proper circulation of the atmosphere. In the chamber story, again, there are the same impediments to ventilation; whilst, to increase the evil, the latrines have a central position at the extremity of the landing, against the before-mentioned median wall, and are manifestly an unwholesome nuisance.

Well-planned Small House.—In the ground-plan, the entrance and the back doors are placed so as to favour through ventilation; whilst, in the chamber story, the water-closet is projected outside, behind the posterior wall; and is ventilated by two windows, one on either side, facing each other, thus securing through ventilation at a right angle with the entrance door.

Townhalls.—Manchester Townhall, King-street, furnishes a good illustration of an important public building with ample air space, and yet very defective ventilation. You step into the lobby; pass on to the staircase, which is lighted principally from the dome; and then you see before you the lofty posterior wall, unpierced by door or window. Having mounted to the landing (the hall or place of assembly is on the first story), you enter from behind, and immediately perceive that this spacious apartment is lighted only by windows in the front. A visit to the hall does not fail to make one feel that the air is stale and sickly; in a word, that you are breathing, perhaps, the very same air an assembly of the citizens inhaled the previous week. A worse planned building for public purposes it would not be easy to find. Besides securing through ventilation—a feature essential in any plan for this kind of structure—there ought to be a door or other opening behind, corresponding with the entrance door; for without some such arrangement it is vain to expect an agreeable condition of the atmosphere, whether in a townhall or in a private mansion.

School-rooms.—Nowhere have I seen school-rooms so badly constructed and ventilated as in Prussia. In some instances you enter a large apartment full of children, with only one door and one window: the state of the atmosphere may be easily imagined. During a tour in Holland, some years ago, I looked into many of the Armen, or public primary schools, and found them more lofty and better ventilated than any buildings of the kind I had seen elsewhere. The ventilation is secured, in general, by means of windows facing each other in the opposed walls at a considerable elevation from the floor; and, being hung on their transverse axis, they are easily opened; and are, in fact, usually kept open. In many of our school-rooms there are windows only on one side, which is evidence that, in some things, we are truly German. No school-room should be planned without deliberate regard to the admission of light and the circulation and continual renewal of the air.

Barrack Dormitories.—As barrack construction has often been the subject of criticism, and is known to be generally in England very defective, I beg to call the attention of architects to the caserne for a large body of troops at Antwerp. It lodged, I think, last year, 2,537 men. The dormitories, which are wide and lofty, have through ventilation by means of very numerous tall windows in the opposed walls; and it is along these walls on either side that the beds are ranged. The stables, too, I found just as well ventilated as the dormitories of the soldiers. Without meaning to affirm that the hospitals, barracks, and other public buildings in Belgium are free from faults, I have certainly visited no country in

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* By Mr. John Roberton. Read at the Manchester Statistical Society.

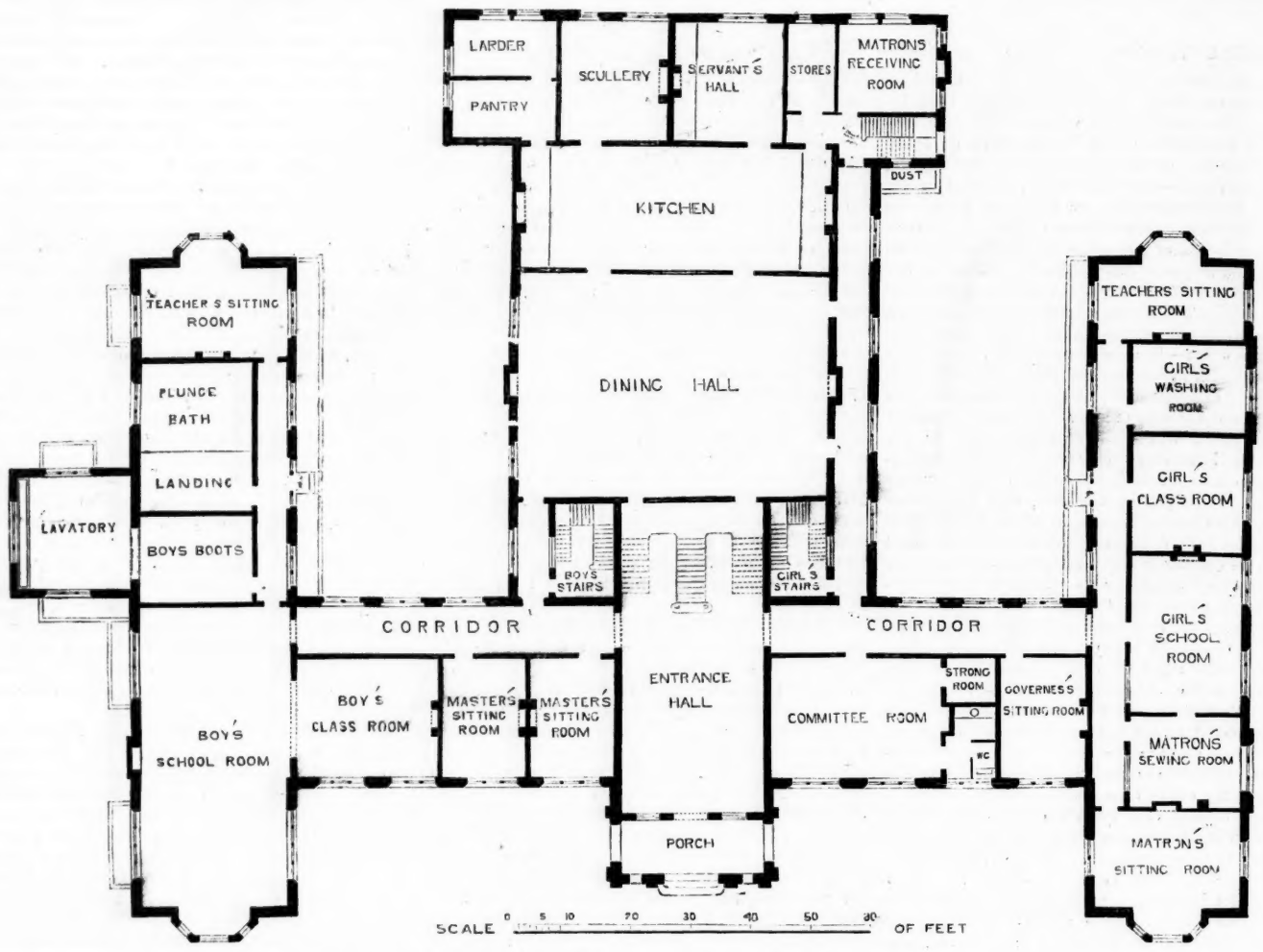
† London: Sampson Low, Son, & Co. 1860. 8vo. pp. 77, 93, and 94. Captain Maury adverts to changes in the air which chemistry fails to detect. I beg here to call the attention of my readers to a remarkable production of Dr. R. Angus Smith, "On the Air of Towns," replete with facts of a novel character, which well deserve the study of all who feel an interest in sanitary science.

‡ Philosophical Trans., vol. li. p. 165.

* Report, p. 43.

† See reports on the health of Liverpool, by W. H. Duncan, M.D., medical officer of health for the borough. In Mr. Samuel Pearce's reports on the sanitary state of Bethnal-green, the mean daily movement of the air in the years 1855, 1856, and 1858, is said to have been 94, 100, and 86 miles,—an average rate considerably below the 110 miles given by the registrar-general.

* Often there are little courts between the cottages at certain intervals, in which are the privies and ashpits, and these for the most part are in a filthy condition. Moreover, it often happens that *under* the cottages are cellar dwellings, parted, like the former, by the median wall.



THE JEWS' HOSPITAL, LOWER NORWOOD.—*Plan of Ground Floor.*

which the laws of nature's ventilation are, upon the whole, so well observed.*

Omnibuses.—Some years ago, when in London, I travelled, on a sultry day, by omnibus, from Camden Town to the Bank; and was struck by the unventilated state of the vehicle; the air in which was depressing—almost past endurance. The front was closed, and padded from top to bottom; and the means for ventilation were exactly the same as would have been, had one entered a large cask, on its side, with one end open. All the London omnibuses, at that time, were equally close and uncomfortable. In Manchester our omnibuses have, for many years, had through ventilation; in some by means of perforated zinc plates near the roof; and in others the admission of air is still more free by small semi-elliptical openings, which face each other on the two sides, close to the roof. In addition to this, there is a perforated metallic plate behind the driving-seat, facing the entrance door; thus securing, on all sides, a free communication with the atmosphere. In the hottest day the air is sweet, even when the vehicle is crowded; and there are no unpleasant draughts.

In referring to ventilation we are never to forget that, in order to secure nature's pure air, it is essential to guard against the many sources of its pollution. The air which descends to us is pure, but it is left to man to maintain it so; hence we have to drain our marshes, empty foul ditches, remove cesspools, and see that our streets are sewered and paved. The Deity has given laws for the moral government of society; but He leaves to man, on whom He has bestowed intelligence, the discovery and the application of those scientific means which are necessary to health and physical happiness.

* "We may hope that the keen, searching examination into the various sanitary defects existing in our large towns, an account of which appears from time to time in the *Builder*, will work important improvements. I should also rejoice if people would receive a sanitary law, propounded some time ago by the editor of the same valuable journal, in reference to the use of gas in dwelling-houses; viz.,—*that there ought to be no gas-burner without a flue, any more than a fire without its chimney.* Dining-rooms and drawing-rooms, libraries and parlours, in this city, are illuminated by gaseliers, some with many burners, to the intolerable deterioration and pollution of the atmosphere. The public seem ignorant of a fact, long since enunciated by Liebig, that 'a cubic foot of coal gas consumes 2 to 2½ cubic feet of oxygen, and produces 1 to 2 cubic feet of carbonic acid.' Any one who will take the trouble to visit our Portico, may see gas produce brilliant illumination, and at the same time itself the agent of ventilation."—J. R.

ALBERT MEMORIALS.

AT Clyst St. George, Devon, the parishioners have subscribed for a new treble bell (F), to be added to the peal of five, as a memorial to the late Prince Consort. Besides a large medallion likeness cast on the waist of the bell, the following is in embossed letters:—

IN MEMORIAM, ALBERTI
CONSORTIS, REGII
PII, BENEVOLI. DOCTI
BONARVM, ARTIVM, PATRONI
OMNIBVS, DESIDERATISSIMI.
MD.CCC.LXII.

This idea of a memorial bell is not a bad one. An Albert bell in every parish in the kingdom and colonies would be admirable.

THE JEWS' HOSPITAL, LOWER NORWOOD.

THE building of which we give illustrations is erected in lieu of the structure founded in 1806 at Mile-end, in the county of Middlesex, for the support of the aged and the education and industrious employment of youth of both sexes, by means of voluntary contributions obtained by Messrs. Benjamin and Abraham Goldsmid, and was built, from funds belonging to the Institution and voluntary contributions, upon freehold land given by Mr. and Mrs. Barnett Meyers. The foundation-stone of the building was laid by Sir Anthony Rothschild, bart., in June 1861, and it will shortly be consecrated, the cost being about 23,000*l*.

The excavations and concrete foundations have been very considerable, in consequence of the levels and nature of the soil. The finishings of the plinths, doors, windows, balustrades, quoins, and entrance, are of Portland cement, except the windows of the synagogue, which are of Bath stone. The basement floors are finished with Seyssel asphalte; the entrance-hall with encaustic tiles; and the corridors and principal passages with red and blue terro-metallic tiles; brick arches being turned, to receive the tiling, to render these portions fireproof, corresponding with the staircases and landings, which are of stone.

The wings which form the north and south sides of the building are, with the tower, the only portions basemented, with the exception of the coal-cellar, which is formed under the matron's receiving-room and stores. The west end of the wings is fitted up with the children's "closets," each closet having slate divisions, door, &c.; and under each range of closets is a culvert, lined with glazed bricks, constantly filled with water, except when emptied by the removal of the standing waste. The remainder of the basement is fitted up as play-rooms and cellars.

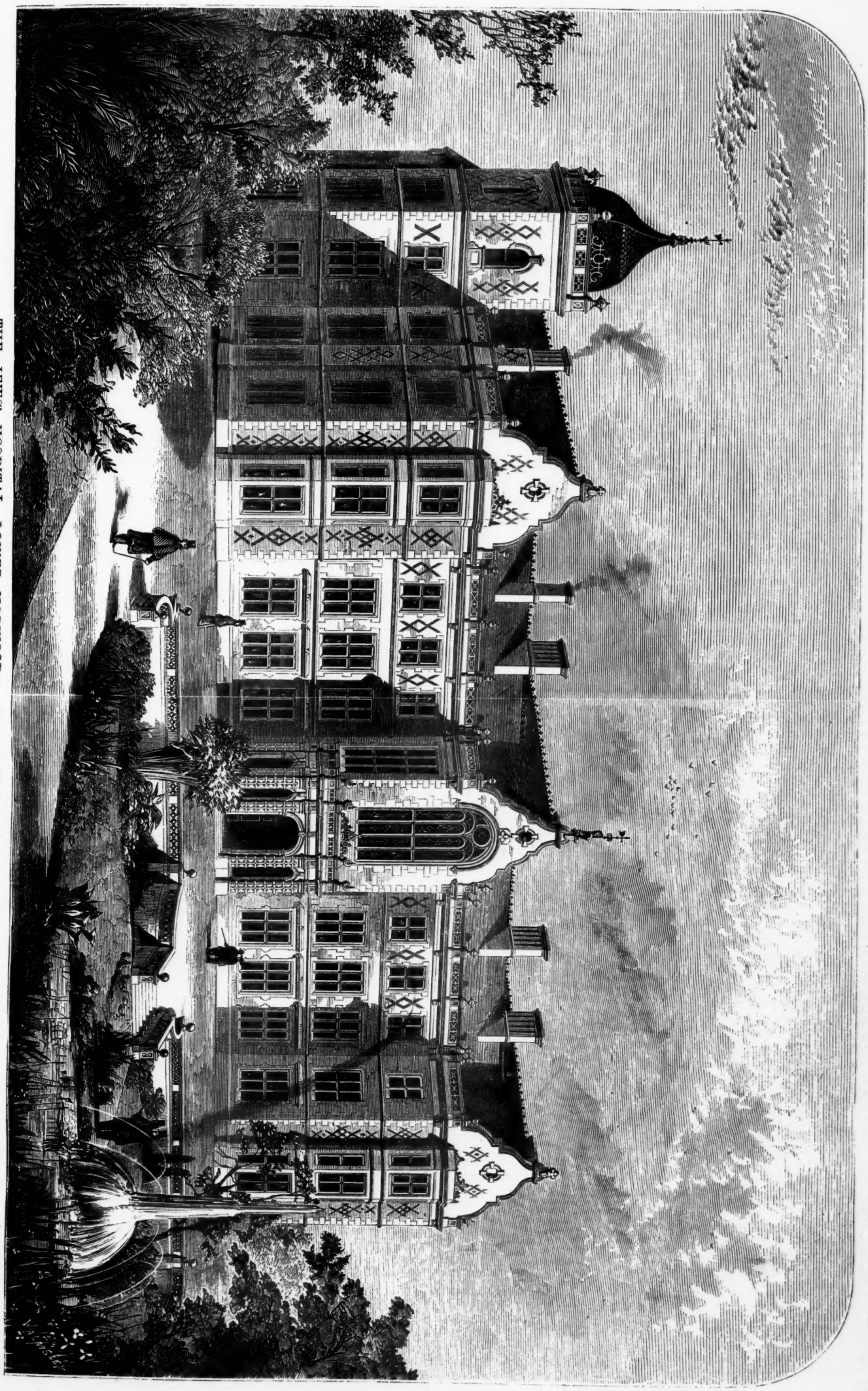
The arrangement of ground-floor is shown by the accompanying plan. The dining-hall has an open timber roof, with lantern and ventilation. The walls are lined with panelled dado finishings, and the chimney-openings have handsome Caen-stone chimney-pieces, with stone fenders and suitable stoves. The principal staircase is lighted by a stained-glass window, containing Scriptural subjects, presented by Mr. Faudel, the chairman.

Over the hall, &c., is the synagogue, with a gallery, having an open timber roof. The lower part of the synagogue is approached from the landing of the principal staircase and the corridors of the one-pair floor, and the galleries from the corridors of the two-pair floor. The wings of each floor are for dormitories, bed-rooms, lavatories, and wardrobes; the portion between the wings and synagogue are intended for masters', matrons', and assistants' apartments.

The buildings over those shown in the rear of the kitchen on the plan are to be used as the infirmary and contagious wards, and have a separate communication over the passage shown next to kitchen, dining-hall, &c., on plan. The approach to the building is from Knight's Hill-road, the entrance-gateway being the gift of Mr. Henry Keeling, the treasurer.

The buildings have been erected by Mr. John Willson, from the designs of Messrs. Tillott & Chamberlain, architects, Gresham-street, City.

"GUNPOWDER SUPERSEDED."—The latest explosive material consists of the flour of starch, which, boiled in a peculiar way with nitric acid, possesses, it is said, a far greater projectile force than the gunpowder in ordinary use. It is, probably, somewhat similar to gun-cotton.



THE JEWS' HOSPITAL, LOWER NORWOOD.—MESSRS. TILLOTT AND CHAMBERLAIN, ARCHITECTS.

THE ROYAL ACADEMY OF MUSIC.

A MEMORIAL has been addressed to the Chancellor of the Exchequer, signed by 105 professors, members, associates, and honorary members of the Royal Academy of Music, well known musicians, praying the Government to assist in its permanent maintenance and support. The memorial shows:—

"That the yearly expenses of the academy average 3,000*l.*, and these exceed the receipts (drawn from students' payments, annual subscriptions, and interest on stock) by an average of 500*l.*; thus, the accumulated capital of the Academy has been gradually decreased to its present total of 4,200*l.*, which will be further lessened by the deduction of 1,000*l.* to defray the standing liabilities of the institution. An easy calculation would prove from the above that the term of the academy's existence is almost definitely limited; and your memorialists beg of you to consider whether this institution ought in a few years to be closed from the want of funds.

The memorialists regret that the present large rate of annual payment should be required from the pupils. While, therefore, the grant by Government of a building for the carrying on of the operations of the establishment (a support enjoyed by all the scientific and artistic bodies in the metropolis) would greatly relieve the Academy of its apprehensions; the concession of yet more liberal assistance would give the power of diminishing the charges to students, and increasing the number of free scholarships; and thus vastly enhance the benefits of the institution."

We should gladly see this effected. An inquiry into and revision of some of the arrangements of the Academy would also be necessary to bring it about.

PROVINCIAL NEWS.

Peterborough.—The scaffolding in front of the new bank, erected by the National Provincial Company in Narrow Bridge-street, has been removed; and the proportions and general features of the building are for the first time disclosed. The front is of Ancaster stone, ornamented with carved pilasters and a variety of mouldings; and in height the building rises above the surrounding houses. Messrs. Hine & Evans, of Nottingham, are the architects; and it is said that the total cost of the building will be about 6,000*l.* Mr. Young, of Lincoln, is the builder.

Dorking.—It is intended to call a public meeting of the inhabitants at an early date (says the *Surrey Standard*), for the purpose of taking into consideration the expediency of erecting a public hall in some convenient suitable situation; and, at the same time, to receive suggestions and offers respecting sites. Mr. George Cubitt, M.P., has signified his willingness to preside at the meeting referred to. The offer made by Mr. Deverell some short time since, to build a hall on the site of a house in East-street, is stated to be of such a nature as cannot well be entertained.

Bath.—At a meeting of the provisional committee for the erection of a new theatre at Bath, it has been resolved that twenty guineas and ten guineas should be given for the first and second plans *not* accepted by the committee.

Invermoriston.—The series of landing-piers on Loch Ness has now been completed by the erection of the fourth of these structures at Invermoriston. For this pier the public are indebted to Lord Lovat. In addition to the pier, a storehouse is in course of erection, and there are to be waiting-rooms for passengers. The pier was executed after a design by Mr. George May, engineer to the Caledonian Canal Commissioners, and is the work of Mr. Sime, contractor, who built similar structures at Temple, Inverfarigaig, and Foyers.

SCHOOL-BUILDING NEWS.

Burton-upon-Trent.—The new schools connected with the Church of the Holy Trinity have been opened. The determination to erect new buildings was arrived at two or three years ago, in consequence of the dilapidated state of the old structure. The schools are built in the Pointed style, and are adapted to accommodate about 500 children. Their cost is stated to be 2,700*l.*

Halifax.—The new school-house for the parish of St. Luke's, the corner-stone of which has just been laid, is being carried out from the designs and under the superintendence of Mr. H. Elliot, architect. The building is to be erected on the lot of ground forming the corner of Morris and Queen streets, facing the west side of the church, and is to be carried out in the Pointed style. It is to be 60 feet long, and 30 feet wide, with a porch projection on the west side 10 feet square, forming the entrance from Queen-street. The main body of the walling is to be of red brick, relieved and lightened, however, by dressings of light-coloured sandstone from the Albert quarries, N.B. The walls are to be built hollow, with an air-space of 4 inches between an outer wall one brick thick, and an inner wall half brick thick. The walls are strengthened by buttresses, of which there are five on each side, with white brick quoins. The roof, which is high pitched and open timbered, is to be covered with Vermont slating of two tints—purple and green—in alternate courses. A bell-turret is to rise above the principal roof, and be surmounted by a wrought-iron finial. On the inside the roof timbers all show, and are to be planed and chamfered, and stained oak colour; the ceiling being plastered in between the timbers. There will also be an air or hollow space of 2 inches between the plastering and slating, to obviate the effects of rapid changes of temperature outside. The room will be lighted by nine side square-headed windows, of two lights each; a large three-light Gothic arched window at the north end, and a two-light ditto at the south end; all of which will be glazed with thick patent quarry-rolled plate glass. The contract for the whole works has been taken by Mr. G. Lang, builder, and the cost will be about 1,000*l.*

CHURCH-BUILDING NEWS.

Clapton (Northamptonshire).—The small village of Clapton, Northamptonshire, presented an animated appearance on the 3rd inst. The old church having fallen into a dilapidated and dangerous state, it was determined to pull it down; and Mr. W. P. W. Freeman, the proprietor of the parish, with the assistance of the Rev. Edward C. Shedden, the rector, has undertaken to build a new church, on a new and more convenient site. The foundation-stone was laid by Mrs. Freeman, in presence of a large assemblage of the clergy, county families, and inhabitants of the surrounding neighbourhood. The old church, though so lately pulled down, was built by Reginald, the first rector of Clapton on record, about the year 1200. Previous to that period it was only a timber edifice; and, although the foundations have been undermined from time to time by vaults and graves, both inside and out, still the old church has stood 660 years.

Colchester.—The tender of Mr. H. B. Smith, builder, Ipswich, for building a new Congregational Chapel, at Colchester, for 3,633*l.*, has been accepted by the committee. The plans are by Mr. Barnes, architect.

Widford (Chelmsford).—Widford new church, which has been erected at the cost of Mr. A. Pryor, of Hylands, is now completed. The new peal of six bells, from the manufactory of Messrs. Warner, has been inaugurated by professional players, sent down by the founders. Mr. St. Aubyn is the architect of the church.

Chesham.—A new district church is about to be erected for the parish of Ch sham, in the county of Buckingham. This has been in contemplation for some time, owing to the increase of the population. The church, when complete, will consist of chancel, nave, north and south aisles, and tower at the west end of the north aisle, and will accommodate about 600 worshippers. The style adopted is that of the thirteenth century. The construction will be of flints for the walls, with dressed stone for the piers and arches and the dressings of the doorways and windows. The chancel, nave, south aisle, porch, and vestry, is all that is intended to be carried out at present. The contract for this portion of the works has been taken by Messrs. Dove, of Islington. The architect engaged by the committee whose design was selected in competition is Mr. Raphael Brandon.

Guildford.—The parish church of Puttenham has been reopened for divine service. The church, which contains some old Norman features, has been partially restored, under the direction of Mr. Woodger, the principal expense being met by a legacy of 1,000*l.*, which was left by the late rector, the Rev. T. W. Richards, for this purpose. A new organ, built by Messrs. Hill, of London, has been presented to the church by the present rector; a stained glass window by Hardman, the gift of Mrs. Richards and Mrs. Pope; and two smaller windows by Messrs. Powell, the gift of Mr. Moreton Sumner, have also been added to the church. The cost of restoration already amounts to nearly 1,300*l.*

St. Leonard's (Sussex).—The Church of St. Leonard's was reopened on the 4th instant, after the completion of the extensive alterations that have been made during the past six months. The nave floor has been lowered to show the bases of the piers: the ceiling of the nave has been taken down, exposing the oak roof: one additional bay is added to the length of the nave; and two transepts, chancel terminating with an apse, vestry, and porch, have been built to the old portion of the fabric. The benches are of deal, stained. Three of the lights in the apse, and one in the transept, have already been filled with stained glass. The centre light in the apse is a memorial, presented by the Rev. J. Carnegie, and represents the Crucifixion. The right-hand stained window represents "Christ Blessing Little Children," and was contributed by the pupils of Mr. Nunns. The left-hand one was constructed at the cost of Mr. J. S. Turner, of Chyngton: it is "The Sermon on the Mount," and is to the memory of Mrs. Ann Pierce. The transepts are about 30 feet wide, with two Pointed windows in each, mounted by a circular window. The painted window in the north is a memorial one, presented by Mr. H. Simmons: it represents the Raising of Lazarus by our Saviour. The whole of the painted windows were put in by Messrs. Powell, of Whitechapel. Some small windows still remain in the aisle walls. They are not more than 4 inches wide and a foot high, of very early Norman work. The aisles have been rebuilt; and the whole of the church, with the exception of the tower (upon which no work has been done at present), has been made to harmonize with the original Transition Norman style of the building. Mr. John Billing, of Westminster, was the architect; Mr. T. Cane, of Brighton, the builder; and Mr. H. Cane has executed the carving, and generally superintended the workmen. The cost of the works was about 2,000*l.*

Kington Magna.—The church of Kington Magna has been consecrated by the Bishop of Salisbury; after having been, except the greater part of the tower, completely rebuilt. The old building was of the Early Decorated style of architecture; consisting of nave, chancel, north and south aisles, with a porch on the south side; and the new church has been built in strict conformity with the original structure; with, however, some few additions, consisting chiefly of a new vestry and warming chamber. The seats are all open, and will accommodate 320 persons; giving an increased accommodation of 72, without any gallery. The works have been carried out under the direction of Mr. Charles Turner, architect.

Oborne (Dorset).—The new church of St. Cuthbert, Oborne, has been consecrated by the bishop of the diocese. The edifice consists of a nave, with bell-turret, and apsidal chancel, with a vestry on the north side of the church. It is in the Early English style, and is built of stone quarried in the village, with Ham-hill dressings; the voussoirs of the chancel arch being of Ham-hill or Tisbury stone. The caps of the columns are of the latter, and were carved by Mr. Poole, jun., of London. The columns themselves are of the red Ipplepen marble, polished. There are five short lancet windows in the chancel, and two at the west end: in the nave there are four double-light windows on the north, and three on the south side. The architect was Mr. W. Slater, and the clerk of the works Mr. Butler. The contract for the walling was taken by Mr. J. Croad; that of the Ham-hill masonry by Mr. J. Chapman; and for the work done in Tisbury stone, by Mr. T. P. Lilly: the woodwork generally was executed by Mr. J. Guppy, and the oak seats by Mr. C. Down; ironwork by Messrs. Read & King; glass-work and painting by Mr. Upsall; the font and carved work by Messrs. Poole, Westminster, the carved desks by Messrs. Forsyth, London; the stone pulpit by Mr. Johnson, Marnhull; the tile paving of chancel by Messrs. Minton, of Stoke-upon-Trent; and that of the nave and porch from the works of the Architectural Pottery Company, Poole.

Worcester.—The choir of the cathedral is about to be thrown open to its aisles, by the removal of the plaster screens which inclosed it; and it is probable, according to the local *Herald*, that the wood galleries and screens or canopies to the stalls will also be removed. The only obstruction of the view from east to west is the organ and its loft; and when the whole is removed (which is said to be contemplated) and the organ deposited in the south transept, under the Adelaide window, the choir and nave will then be thrown open into one for congregational purposes. The scaffolding is being removed from the north-east transept, which has just been completed, except the carving of its arcade work, which had been almost entirely swept away by some former iconoclasts. Mr. Boulton, sculptor, is engaged on a new series of carvings for this transept.——The Barbourne district church, after a long delayed period for erection, is now nearly completed, and will probably be consecrated in a month. The walls are built of Ombersley stone, and defended with buttresses.

The nave roof is lofty, and with clerestory. The tower, which is situate at the south-west angle of the nave and at the end of the south aisle, is of three stages, with double buttresses at the angles, and a newel staircase leading up to its top. At present only one bell is hung: it was cast by Mr. John Taylor, of Loughborough. A spire was originally projected. The church was founded by the late Miss Lavender, who died while it was in course of erection; and the stone was presented by Mr. T. G. Curtler. The style is Decorated. Four acutely-pointed arches separate the nave on each side from the aisles, and stand on circular and octagonal pillars, with freestone capitals, carved in foliage, monsters, &c. The roofs are of open timber—red deal, stained—the principals resting on corbels, carved with foliage. The clerestory consists of duplicated arches, each having a two-light window. All the arches are constructed of red and grey stone alternating. The aisle windows are of two lights, with trefoil opening above; west window, four lights; east window of three, the latter being of stained glass, with the inscription, "In memory of Jane Lavender, who founded this church, and died while it was in building." The subjects of the window are, Moses lifting up the Serpent, Abraham about to sacrifice his Son, the Crucifixion, and Resurrection, with angels bearing a label; and in the tracery of the head are the heavenly hosts, playing on harps, &c. Minton's tiles are laid in the chancel, and the nave floor is covered with Stourbridge tiles. Haydon's hot-air apparatus is applied for warming the church. The seats are open, with leaning backs, and the material is stained deal. The edifice will seat between 500 and 600 persons. Mr. Preedy was the architect; and Messrs. Addenbrooke & Hartland, of Sedgley, were the contractors for the whole work. The churchyard is being levelled, and the walks laid out. A school will also shortly be erected in a field adjoining the churchyard.

Bristol.—A scheme has been concluded between the Dean and Chapter of Bristol and the Ecclesiastical Commissioners, by which the former pass to the commissioners (with certain reservations) the whole of their property; and by which the latter bind themselves to pay to the Dean and Chapter an annual sum of 6,796*l.*; and to expend the sum of 6,000*l.* on repairs and alterations in the cathedral church; such repairs, &c., to be carried out under the direction of the architect of the Dean and Chapter.——The new Wesleyan chapel at Clifton is progressing. The total cost will be 5,980*l.*, all of which has been promised or subscribed except 1,500*l.*

Bisley.—The Church of All Saints, in the village of Bisley, has been reopened. The edifice, according to the *Gloucester Chronicle*, consists of a nave and two aisles and a chancel, the prevailing style being Early English. The other chief features of the interior are an open-timber roof, a clerestory of trefoil lights, a chancel arch, its hood moulding terminating in florid corbels; an ancient font carved, and a stained chancel window of three lights. There is also a second painted window in the north aisle, the gift of the workmen employed in rebuilding the church; and one of the clerestory lights is painted. The roof of the chancel is painted, and the floor of the edifice is covered with Godwin's tiles. The church is surmounted by a spire. The cost of the edifice, amounting to about 4,000*l.*, will, we understand, be defrayed by the vicar and his friends; while the curate, Mr. Lowder, has been the architect. In the progress of the works some Roman remains were found, namely, a domestic altar to Mars, in a very perfect condition; and another, more mutilated, to Castor. A large painting, of the fifteenth century, was also discovered on the north wall, representing St. Michael weighing the souls, with the Virgin Mary receiving them under her robes. A number of incised coffin-lids or monumental slabs were also discovered, and have been preserved, and are now placed in the wall of the north aisle. The stained windows are by Messrs. Clayton & Bell: that in the chancel represents our Saviour as the Good Shepherd; the workmen's windows, Hiram and Bezaleel, the Scripture Builders, with emblems; and the clerestory window, the Transfiguration. The contractors for the masonry were Messrs. Wall & Hook, of Eastcombe; for the carpentry, Mr. W. Restall, of Bisley; and the iron and other work generally has been executed by parishioners. The enlargement of the organ has been done by Mr. Walker, of London; and the colouring of the chancel by Mr. Clarke, of Bristol.

South Cerney (*Gloucestershire*).—The parish church has been reopened. Four or five years ago the spire was struck down by lightning, and the whole of the edifice was much shaken. It was therefore resolved to repair the church, and also to enlarge it. The new edifice has, therefore, been lengthened; and it has also been widened by the addition of a south aisle; and, instead of being a small Norman church, debased and disfigured by alterations of later date, it is now a large one in the Early English style. Some Norman features have been interwoven with the design. The church consists of a chancel and nave, with two aisles. A feature of the interior is the manner in which the tower separates the nave and chancel: the lower story forms a covered passage between them, and serves both for a belfry and a choir. A painted window, by Messrs. Lavers & Barraud, of London, has been put up in the nave: the tracery is filled with the heads of the twelve apostles; and the lights, five in number, divided into two tiers, contain representations of ten incidents in the life of our Saviour. The window is a memorial of Mrs. Edwards, the wife of a former curate of the parish. If the spire were re-erected the church would be complete. After it had been struck it was pulled down somewhat carelessly, and the stones were piled in the churchyard, where they still remain. The cost will be only 150*l.* The builder employed was Mr. O. Estcourt, of Gloucester.

THE WAY TO THE NEW STYLE.

THE idea which we are apt to form of so indistinctly-defined a thing as a new style is extremely likely to differ so much from its natural realization, that we might in no wise recognize the realization when presented to us. None of us who desire the triumphant advent of the new style have as yet seen our idea of it realized. Yet it may be inferred from the expression of this desire that the new style must now be leavening the styles in which we at present practise. Within the last few years some buildings have been erected in a style or manner which is not *old*, although akin to an old manner; and which, in a description of styles, would require its own special chapter. It would be inconveniently *personal* to point out the buildings to which I refer; but they are not all of one, or two, or three architects' design, and they appear to me to realize a new style, in an approximate degree; and perhaps may hereafter be classified as of a transitional style; for they, though mostly private buildings, are not ephemeral erections; and will, doubtless, exist long after the new style has become no longer problematical.

The style of the buildings I have just referred to, therefore, approaches nearest towards realizing my conception of the new style. But the position of the new style is claimed by the advocates of two of the styles which are at present practised; the style or manner called the "Victorian Style," and the "Pointed Style."

I cannot concede to the Victorian style the epithet new; inasmuch as it appears to me to be an old style, with a difference, as the heralds have it,—an old style Borromini-ishly treated, and nothing more.

The present Pointed style is more entitled to be termed new, in consequence of the great modifications it has latterly undergone; and these modifications must not cease now if the style is to be the new style; but they must be continually made until no modification is necessary. But however pliant (as its advocates declare) the nature of the Pointed style, there is a deadly feeling of precedent now growing about it, which, if not checked, will overthrow it. It is now in the position of the old infallible Classic style of the Georges. Puritanic in its avowed principles, it has occupied the seat of the artistic episcopacy; but what then? "New presbyter is but old priest writ *large*."

I propose now to make three remarks on *the* new style; viz., on its unity, its antiquity of principle, and what is its principle; always reserving that I speak as I apprehend; and, while supposing I am right, am only anxious that my views should be adopted in strict proportion to their correctness; and of what that proportion is, I should wish every interested reader to be persuaded in his own mind.

The style which embraces the beauties of all others must also embrace their features. These features being selected according to the necessity of every special case, it will follow that some buildings will differ as widely in character from other buildings as a Gothic church differs from a Classic warehouse. I fear lest this variety should be deemed dis-unity. I do not look at it as such. I think that the unity which we claim is an unity of principle. It is impossible that the forms of buildings should universally assimilate; but I think that there is some such idea entertained as that this impossibility ought to be overcome by the inventors of a new style. I should not desire to overcome it, but rather to produce structures of their several classes, varying from one another no less than bee from spider, or beetle from butterfly,—to extend the comparison no further; although I think it would admit of further extension.

It appears to me that we could not fail of producing a style possessing true unity, if we employed *one* principle, the operation of which must be necessarily regulated and guided by the physical laws of nature. However, it is very necessary to keep harmonious arrangement in view, because it is so easily lost sight of in working in a new manner; and while this must be the artist's care, surely all who value progress should regard errors in this particular with a very charitable feeling. The poet says,—"If you would unheard-of things express, invent new words." If our new words should not be so graceful as the old, give us, O hearer, all your help, so that we may speak more gracefully, while also speaking originally. Do not preconceive this new style either a Minerva, Jove-born; or a Sin, Satan-born.

I consider that the principle on which we found our new style must be old. I do not consider the principle can be correct which is other than that on which all the splendid old styles have grown. I can never perceive that Greek or Pointed architecture, Roman or Egyptian, or Saracenic, or Renaissance, are other than the result of the steady application of *one* principle, which is the most dominant in those works we most admire.

What, then, is this principle,—this principle of unity and immortality which is to be the life of our new style? I will give it in words written by Mr. Fergusson, years since, in the *Builder*. But before transcribing these words, I will observe that, however excellent the principle embodied in them, it does not avail those who do not receive it.

If this principle be right; and you, reader, so conceive it; does not your conscience call upon you to *determine* to carry it out? Did not conscience so cause Galileo to proclaim the truth he perceived? But you, O architect, have but to embody this principle in your style, by a patient application of it to every line you draw or word you write in the description of your work, or every direction you give concerning it. Whether you work for reputation (which is money), or for the love of God, you must consider that your interest requires that your endeavours, however meekly made, must be made laboriously,* fervently, and entirely in the direction which you consider right.

And this is how Mr. Fergusson states what I consider the principle for a new style, and in proximate accordance with which is the style of the buildings referred to in the first paragraph:—

"1st. Design a building wholly and solely for the purpose for which it is to be used, without the least reference to any bygone age or style. 2nd. Construct it with reference to the best material available; using each material—whether it be brick, stone, marble, wood, or metal—according to its own properties, and these only; never allowing it to take the form, or interfere with the province, of the other. And, lastly, ornament the building so designed and constructed in whatever manner you can conceive as most appropriate and most elegant; never concealing or even disguising construction or material,—only dressing them, to use a familiar phrase; and likewise without reference to any other style, or ever looking back, but always forward; trying to surpass whatever has been done before."

S. C. R.

CRYING FOR A NEW STYLE.

SIR,—It seems extremely unfortunate,—at a time when, above all others, some good and eminent men are striving, and apparently with success, to properly form and cultivate the mind of the young architectural student for the work he will have to do—to direct his mind to examine and admire, and his soul to love purity, elegance, and modesty of style in his art,—that endeavours should be made, and made ofttimes by those in responsible situations, to root out and demolish his preconceived notions; disturb the quietude of his thoughts, create disgust with the idea of "fettering" his mind with architectural maxims and works which have excited the emulation and

* Has not the natural dislike of the trouble of repeating in drawing very much to do with the success of the picturesque one-sided manners? Has not the labour of drawing elliptic arches greatly contributed to the employment of the false ellipse?

admiration of all men of taste in preceding centuries; and, in urging him to strike out boldly into the vortex of mistaken originality,—to ruin him; at any rate, for a time. Such endeavours are, I think, mischievous in the extreme.

I have been led, in offering these remarks, upon a subject comprehended by the heading of this letter, to the attention of the readers of the *Builder*, to make them in the hope that they will counteract, at least to some extent, the dangerous tendency of not only the letters which have recently appeared in this journal; but opinions which have been expressed by some in written works; and by others who, one would have thought, were wiser, in works of more enduring material than paper; because I am perfectly convinced that such opinions are not only hurtful to their originators, but baneful to those who will have to succeed them in a few years; and also to the public, who will have, in the long run, to determine whether those opinions are lawful and true or not.

Let us then consider, first, the question, "Is a new style wanted or not?" and next, "Whether a new style can be founded or not."

By a "new style" we must of course understand that a style is meant which no nation or people have ever thought of or conceived before; else how could it be said to be new? Now this cry has been cried for centuries. Ideas have been given; and, in some instances, carried into effect; which have either excited the risible faculties or have been treated with contempt, mingled with sorrow; and still we are without this new style, which shall distinguish its authors from a mere "set of copyists." Seeing, then, that so much time and money have been wasted without producing any valuable effects, it becomes of primary importance to consider the question proposed above.

Do either of the established styles—Italian and Gothic,—the one born and bred by the most scrupulous and refined good taste; and the other called into existence by a great occasion,—fail *of themselves* to represent the feelings and requirements of the nineteenth century?

They cannot be said to do so in a fine-art point of view. Never were people more pleased and enchanted with good work in either style than we of the present era, when we get it;—the more delighted as it approaches to purity and perfection of style; the more displeased as this is disregarded. Purity of style, then, must be the highest aim of an architect, if he wishes to ensure himself lasting approbation; and he will ensure the one, in proportion as he succeeds in producing the other. They cannot be said to inconvenience us by requiring materials we have not. They agree as well as anything can with our variable climate; and for constructive purposes they suit us admirably in every way. They do not fail in any important point; or, if they do, it is rather the fault of the architect. Both in beauty and utility we are suited when they are properly handled. This being the case, then, would it be wise to thrust these capabilities on one side,—to pursue an unpromising object, which will never reward anyone in the future, for expending time and trouble upon it, as it has never rewarded anyone in the past?

Good taste will *not* have architecture which shall, under the doubtful recommendation of originality, figuratively turn the ground-floor into bedchambers and the attics into drawing-rooms. No one cares for such architecture, and no one in particular will countenance it.

How highly ridiculous would our workers in iron be were they to refuse working in that metal because they were not its discoverers; and how equally ridiculous in architects to refuse working in styles which taste tells us are good, because individually they have not formed them! True originality consists in being original in the same way that the author of a book is,—by using words which have been used thousands of times before, only arranging them differently.

Seeing, then, that people are entirely satisfied with the styles we have, so long as they are properly used and not abused; that a new style to oust out the old ones is not required, because the old ones suit us as well as any new one possibly could in every point of view; and that people do not, in erecting a building, wish to speculate in a curiosity, or monstrosity; let us consider the second question, viz., —"Whether a *new style* could be founded or not, if one was required."

If this *does* mean a style entirely new, I unhesitatingly answer, No; a new style cannot be founded. But if we adopt a milder form, and propose a mixture of the two standard styles; why, I think it may be accomplished; but it would never be satisfactory; and, consequently, never supersede the others.

Centuries of thought and labour have taught us that but two styles suit us—Classic and Gothic. The latter is, perhaps, in the ascendancy at the present time, because of the peculiar religious development which has taken place of late years; which religious feeling corresponds to that which originated the style. Of the phrases of Gothic, the Early English is the most to be desired, inasmuch as it supplies that longing after purity of expression which we have within us. Its effect is gained in a great measure by horizontal and vertical lines; while classic literature, admitting only of horizontal lines, is at once destroyed if leading vertical lines are introduced,—the frieze broken, and projections given where flatness is necessary in order to give that feeling of reposing gracefulness which is the distinctive feature of good Italian. Because, then, Gothic is unpleasing unless it possesses bold projections and vertical lines to give it massive and playful shadows, and Italian is pleasing and good when it is without them, any attempt to unite the two styles must of necessity fail; and the idea of supplying us with a *new* style by a mixture of two old ones is evidently absurd; for it must consist of disjointed fragments of the peculiarities of each old style thrown more or less clumsily together. The lover of Italian will feel hurt to see his love in such bad company as Gothic; and the hater of Italian will feel disgusted to see Gothic polluted by the touch of its foe; and as all men adhere to one or the other, universal disapprobation will be the consequent of any attempt to unite the two styles in one composition.

Oh that every reader would accept as an axiom that no architecture is really good except that which the architect has nobly striven *to perfect*—not sought to originate anew! S. G. C.

DWELLINGS FOR THE POOR.

SIR,—A few months back men were roused to admiration by announcements in newspapers, that Mr. Peabody had placed 150,000*l.* in the hands of trustees for the benefit of the poor of London; and that a large portion of this money would be vested in dwellings for their occupation. Such information as I obtained on this matter induced the belief that the feelings which Mr. Peabody's munificence had excited urged people, in his apparent honour, to the conclusion, that his money would meet all the house requirements of the poor; and that it would be intrusive to sustain him on his purposes for their comfort. Admiration too frequently subsides into such a deadening and unwarrantable conclusion as this; but my belief is that, to truly honour Mr. Peabody for his services to the English poor, we must come to sound conclusions on the question,—What amount of money is necessary to meet and overcome the moral and physical evils which the crowding of the London poor in their dwellings produces?

When Mr. Peabody's gift was proclaimed by the press, my impulse was to observe on its practical merits with reference to this problem; I having toiled over it for some months in the winter and spring of 1860-61; but I thought of the impending meeting in London of the Association for the Promotion of Social Science; and I suspended my purpose in the hope that the subject would be then comprehensively and practically treated by some competent person. It was not so treated; yet something was said, for another purpose, which enables me to show, in this letter, the practical value of Mr. Peabody's money in its connexion with my suggested problem. In the Social Economy Department, on Thursday, 12th June, the merits of a paper on the "Operation of the Poor Laws" were discussed; and, for the purposes of his special arguments, Mr. W. Gilbert declared that, "by the construction of the new street from Stamford-street to the Borough, and of the Charing Cross Railway, and the London, Chatham, and Dover Railway, dwellings which had been occupied by from 5,000 to 7,000 persons of the working classes had been pulled down; and that those occupiers were now crowded upon the already overburdened parish of St. George, Southwark." Crowded! Then wholesome, decent, dwellings for (say) 6,000 poor persons could not be found in the parish of St. George; and there they are festering for the want of such house accommodation as Mr. Peabody seems to indicate to his trustees in his famous letter of suggestive instruction. Now, what would his whole 150,000*l.* do for those 6,000 dispossessed persons? A mere drop-in-a-bucket fraction of that vast host of overcrowded London people we have heard of for long years in the *Builder*. In a parish where the value of land is comparatively low, an illustrious lady has lately caused to be erected a square of dwellings for the poor. Possibly 700 persons occupy them. And I know where I can see other dwellings of like character. Some money has been sacrificed in Columbia-square on certain embellishments, and to give the tenants certain personal luxuries. Give, I entreat you, your thanks to the lady for this generous expenditure; but, putting it away from my calculations, I cannot believe it possible that a square, in even such a locality, could have been erected for less than 25,000*l.*; and eight such squares would scarcely accommodate the 6,000 persons lately thrust into the parish of St. George. So, then, were it convenient for about 5,000 of them to live in the neighbourhood of Columbia-square, seven more such squares would be necessary for their accommodation; and Mr. Peabody's whole money would not be enough for their erection. But men cannot be transported from their ordinary work in this massed way. And in other districts of London, where land is of greater value,—Southwark for instance,—houses of varied character, for the occupation of 6,000 persons, could not be constructed, or re-modelled, for such a sum as 200,000*l.* If, then, Mr. Peabody's 150,000*l.* would not give house accommodation to the dispossessed families declared by Mr. Gilbert to the Social Science Association, the wildest sentimentalist ought not to credit such a clear-headed calculating man for more than this in his noble and departing gift,—an earnest desire to stimulate other men to follow his example, for the benefit of the poor of London. His trustees can only serve them fractionally. But, should the wealthy men and women of London receive what he has done as a positive appeal to them to help the poor in their dwelling necessities; then, on such conclusions as I have reached on the subject, I am of opinion that, conjointly, they could easily and largely aid them.

For the most part, men of wealth have families having moral right to it sooner or later; and no man of the world would be weak enough to assume it possible to win them to such an investment, of such a portion of it as would seriously lessen yearly income, or damage its market value now or ever. But business calculations sustain me on this assertion, that it is quite possible for the wealthy of London, under sound and sure legal arrangements, and by the investment of sums which may be, emphatically, declared trifling, to substantially serve the poor in this case of dwellings;—to serve them by the investment of such sums as could not, on any conceivable calculations of business chances, lower their incomes by more than such trifles as I dare not outrage their self-esteem by naming in this place. Yet such interest-producing investments would do for the poor what our medical men and moralists tell us must be done for them before they can be, as a class, healthy and reputable human beings.

Were I to write of them as beings accountable to that *One* who is of purer eyes than to complacently behold iniquity in mansion or hovel, I should deal with the duty-work of the clergy and ministers of all religious denominations. Therefore this much only on their work: I believe they have arrived at the supreme conclusion that, debarred the decencies and moralities of life in their abodes, it is a hopeless duty to press upon the attention of such poor people the claims and privileges of religion. On this consideration I venture the hope and the belief, that our clergy and ministers will ponder what I have in few and simple words expressed in this letter; and be prepared to aid on the purposes of it, should that aid be claimed from them hereafter by those whom they esteem and honour. P.

COMPENSATION CASE.

CHARING-CROSS RAILWAY.

A COMPENSATION CASE was heard on Saturday, the 12th instant, at the Sheriff's Court, Red Lion-square, before Mr. Burchell and a special jury. Messrs. Gatti & Monico, who had occupied Hungerford Hall for the sale of ices, coffee, &c., claimed upwards of 13,000*l.* for giving up their premises for the formation of the railway. The net profits were stated at 4,000*l.* a year. The receipts last year were 9,552*l.*; on which there was a considerable profit. In the present year the receipts up to May were 5,186*l.*; and, being the International Exhibition year, they were expected to be considerably beyond the receipts of last year. After a consultation the jury assessed the compensation to be paid by the company to Messrs. Gatti & Monico at 7,750*l.*

PROPERTY TAKEN UNDER THE LANDS CLAUSES ACT.

REDDIN *v.* THE METROPOLITAN BOARD OF WORKS.

VICE-CHANCELLOR SIR W. PAGE WOOD, July 10th, gave judgment in this case. The suit was instituted by Mr. E. Reddin, the well-known dust contractor, of Windsor-wharf, Bankside, for the purpose of having the defendants restrained from taking a portion of his premises for the purpose of the main-drainage works, without purchasing the whole of his property.

It appeared in evidence that the defendants had, on the 5th of March last, served the plaintiff with notice that they would require to take a part of the premises at Windsor-wharf, known as the "tot-shop," or sorting-room, in which the plaintiff subjected the dust, rubbish, &c., collected by him, to a final process, by which various articles, such as bones, glass, &c., were prepared for the purposes of trade and manufacture. The real question was, whether this part of the property could be called a "manufactory" within the meaning of the Lands Clauses Consolidation Act, 1845.

His Honour said that a large number of persons were employed upon this "final process," and that it was no stretching of the term "manufactory" to extend it to the sorting-room. The defendants were therefore compellable to take the whole property if they took the sorting-room; with the exception, however, of a building which was held on sufferance, and had not been used for many years.

Mr. Baggally, Q.C., Mr. Cole, Q.C., Mr. Wickens, Mr. Beaumont, Mr. Langworthy, and Mr. Clifford, appeared in the case.

PATENTS CONNECTED WITH BUILDING.*

AN IMPROVED PROCESS FOR HARDENING STONES AND PLASTER OF PARIS, AND MAKING THEM IMPERVIOUS TO WATER.—*J. B. Hulard & L. G. Poupet.* Dated Nov. 25, 1861.—The composition which the patentees prefer for their indurating liquid is composed of the following ingredients in certain proportions:—Borax, white lead, sulphur of alumina [sulphuret of aluminium ?], acetate of lead, sulphate of zinc, silicate of soda or potash, ravlin, linseed oil, and water.

IMPROVEMENTS IN GROUND OR EARTH SCREWS. *F. Johnson.* Dated Nov. 20, 1861.—This consists in making the periphery of the flange of the screw with a number of teeth, similar to a circular saw, and arranged so as to assist the pitch of the screw; thereby enabling it to cut its way into the ground with greater facility than those at present used with a plain unbroken flange; or the screw may be made by having only a portion of its periphery with teeth; and in this case a projection can be made at its cutting edge, so that the remainder of the screw, which is of a lesser diameter, would follow in the opening made by the said projection.

IMPROVEMENTS IN BLOCKS FOR HOISTING.—*W. Duchemin.* Dated Dec. 3, 1861.—This relates to that class of hoisting-blocks in which friction rolls are introduced, and consists;—1. In a block having a ring or central bearing of considerable diameter, cast on to, or otherwise suitably attached to, the shell of the block, and surrounded by a loose metal ring (which serves the purpose of the sheave of an ordinary block), and between which and the central bearing is interposed a series of friction rolls, on which the loose ring turns. 2. In metal bushings for sheaves of blocks, the same consisting of a loose ring or sleeve surrounding the axle on which the sheave runs, a series of friction rolls, and a box for containing the same.

IMPROVEMENTS IN MACHINES FOR BORING HOLES IN ROCKS AND OTHER HARD SUBSTANCES. *T. W. G. Treeby.* Dated December 3, 1861.—This consists of a drill or boring tool which is fastened to a striking rod, which rod moves in iron or wood framing. On this striking rod there is fastened a serrated disc or face ratchet; and on this striking rod there is also attached a spring that gives the blow to the boring tool. The boring tool is withdrawn by a cam or lug working on a spindle: the cam or lug on the spindle, rotating, strikes against the serrated disc or face ratchet on the striking rod, pressing the spring back: as soon as the cam or lug passes the centre, the striking rod is instantly released, and the blow is given by means of the spring before named.

IMPROVEMENTS IN PUMPS.—*J. Knowelden.* Dated December 5, 1861.—The first part of this invention is for an improvement upon an invention, for which letters patent were granted to the present patentee, in conjunction with Downes Edwards, 7th July, 1859, No. 1613, and refers to the valve-chamber and valves. The present improvement consists in forming the chamber circular, and in fitting the valves to feathers on a circular plug. The patentee connects a handle to the outside of the plug, whereby the same may be withdrawn in case of need, and whereby the action of the pumps in connexion with the valves may be reversed; that is, the pipe which acted as a suction-pipe may be made to act as a force or delivery pipe, and that which acted as a force may be converted into a suction-pipe.

IMPROVEMENTS APPLICABLE TO BUILDINGS, IN ORDER TO FACILITATE THE EXTINGUISHING OF ANY CONFLAGRATION WHICH MAY HAPPEN THEREIN. *W. P. Bayliss.* Dated November 20, 1861.—This consists in constructing buildings with an aperture, or with apertures, at the upper part of each apartment; the said apertures being in communication with tubes or channels opening into the chimney, or into the external atmosphere. Hence, if a fire takes place in the building, it will only be necessary to close the apartment and the smoke and fire will vent by the said apertures. The invention also consists in placing a cistern or receptacle at the upper part of the building, from which pipes descend which reach from the said cistern to the basement of the building, and may form supporting columns or pillars to it. Suitable branch pipes and valves are employed for conveying the water into any apartment where fire may occur.

AN IMPROVED MODE OF FASTENING DOORS, AND FOR OTHER SIMILAR PURPOSES.—*J. C. Croxford.* Dated November 20, 1861.—This consists in constructing a fastening for doors, drawers, windows, and other like purposes, in the following manner:—A segmental or straight bolt is worked by, or, if preferred, fixed to, the handle; on turning which the bolt is made to protrude, and enter a groove or other similar provision made in the door jamb: one or more catches or tumblers fall by this movement, and prevent the return of the bolt; therefore, to unlock, it is necessary not only to lift the tumblers or catches, but at the same time to turn the handle. The patentee also makes a key-way in the lock which turns with the key, so that on any attempt being made to introduce a pick, the key-way closes itself, and leaves but a very small passage to introduce anything further.

AN IMPROVEMENT OR IMPROVEMENTS IN FASTENING KNOBS TO DOORS, DRAWERS, AND OTHER ARTICLES; AND IN CONNECTING KNOBS TO SPINDLES.—*R. Harcourt.* Dated Nov. 26, 1861.—This consists in fastening knobs to doors, drawers, &c., and in connecting knobs to locks or other spindles, by a divided collar or plate, which is made to engage with the flange or shoulder which terminates the neck of the knob, or to engage with the neck of the knob. The invention is not described apart from the drawings.

IMPROVEMENTS IN MACHINERY OR APPARATUS FOR CUTTING IRREGULAR AND CURVILINEAR FORMS IN WOOD OR OTHER SIMILAR SUBSTANCES.—*J. H. Johnson.* (A communication.) Dated Nov. 20, 1861.—This consists;—1. In combining with a table, or other equivalent means for rotating the frames to be cut, a pattern of the general form of frame to be produced, and two rotating shafts, each carrying a suitable tracer and cutters. One of these shafts is made self-adapting to the other by a lateral sliding motion, whilst the other shaft is by a similar contrivance made self-adapting to the inner periphery of the pattern; so that the cutters, which, by their form and rotation, produce the required mouldings, shall be guided in the required track to cut the general form of the frame to be produced;—2. In the combination with a pattern and tracer of two sets of cutters carried by parallel shafts, and so mounted that the distance between two shafts shall be self-adapting by a lateral sliding motion of the shaft, the cutters being forced up to the work by a weight or equivalent yielding pressure, whether one or both of the said shafts be so mounted;—3. In so arranging two parallel-cutter shafts that the entire surface of a frame can be cut at one operation without any liability of the cutters interfering with each other.

* Selected from the lists in the *Mechanics' Magazine.*

Books Received.

Colossal Vestiges of the Older Nations. By WILLIAM LINTON. London: Longman & Co. 1862.

THERE are very few ancient countries which cannot, to this day, display some evidences of power and skill in the moving or elevation of large stones. As Mr. Linton remarks,—

"Europe, Asia, Africa, and America can each boast of nations which have been distinguished at some period by their acquaintance with the mechanical knowledge requisite for such operations. In Asia, the Indians, the Javanese, the Burmese, the Assyrians, Babylonians, Jews, and Greeks have left us evidence of such knowledge and skill, either in fact or in history. In Africa, the Egyptians have bequeathed imperishable monuments of their grand taste, skill, and mechanical power. In Europe, the Greeks and their colonists, the Etruscans, the Celts, and the Romans, with their early descendants, have severally recorded their energies in durable stone; whilst in America, huge fortifications, temple-crowned pyramids, and statues have secured to its early inhabitants a claim to rank among the skilful and intelligent of the ancient world."

The power which ancient nations have shown in moving enormous monolithic masses of stone, even to great distances,—sometimes hundreds of miles,—is by no means the most wonderful or unaccountable of their vast efforts; since, even in modern times, immense masses—far greater than many or most of those which still record the power of the ancients—have been removed to considerable distances. Thus the rock pedestal of the statue of Peter the Great at St. Petersburg is estimated to weigh no less than 1,336 tons; while the stones of Stonehenge average only 30 tons; the obelisk at Seringapatam, in India, 110 tons; the great pillars at Fateereh, in Egypt, 260 tons; the great Egyptian obelisk at Rome, 445 tons; the colossal sitting statues at Thebes, 850 tons; cut blocks at Baalbec, 1,087 tons; and two lesser obelisks at Heliopolis, 1,150 tons. The pedestal of Peter's statue, weighing 1,336 tons, was removed to St. Petersburg from a distance of more than twelve miles, and crossed a morass by the way (this was done during a hard frost): 400 men were employed in its removal; and the levers they worked with were constructed of masts 15 to 18 inches thick, and 65 feet long, three of these being lashed together to form each lever. With the aid of rails, balls, capstans, &c., the granite boulder was moved at the rate of nearly a quarter of a mile a day. Although the ancients have done still greater wonders in this way, as in moving and setting up the two great obelisks of 2,000 tons at Heliopolis; the obelisk of 4,000 tons at Babylon; and even the monolithic Temple of Latona, of 5,000 to 7,000 tons, with its roof stone of 2,400 tons, at Buto, in the Delta of Egypt, and which masses were taken a journey of 650 miles; still, in the mere removal of enormous monolithic masses from one place to another, we have at least something to compare with such efforts in modern times; even though it may be in a relatively humble way. But the most astounding display of ancient power appears in the lifting of such masses as those worked with to considerable heights, and especially under circumstances where inclined planes would not be admissible. Thus Sir Gardner Wilkinson, in speaking of the Egyptians, says;—"Their wonderful knowledge of mechanism is shown in the erection of obelisks, and in the position of large stones raised to a considerable height, and adjusted with the greatest precision, *in places where the space will not admit of an inclined plane,*—doorways, lintels, roofing stones of large temples," &c., &c.; and Maurice speaks of the "astonishing blocks of marble or granite, elevated to heights and removed to distances which the energy of no mechanical powers known to us at this day could effect."

Even in cases where it may be admitted that the inclined plane could be used, the power brought into action is astonishing: thus the roof-stone of the monolithic temple at Buto, weighing 2,400 tons, was lifted up to a height of 60 feet, and placed upon the still greater monolith like a lid upon a chest! And all we can do to diminish our astonishment is to remind ourselves that an Egyptian Pharaoh was a despot who had no end of human power at his supreme command; although even this goes but a small way in accounting for so extraordinary a knowledge and command of mechanism and mechanical power. Moreover, we must remember that the mere removal of a single stone for some special purpose was by no means the rule, but the exception; enormous masses having been transported to great distances for building purposes by hundreds, by thousands, not only in Egypt, but in India, in Europe, and in America, as ordinary and every-day operations.

Mr. Linton's compilation of all such wonders, and of many other "colossal vestiges" of the older nations, forms an extremely interesting volume; to which is appended a diagram comprising a selection of some of the more remarkable monoliths, ancient and modern, drawn to a scale.

VARIORUM.

"Reminiscences of Captain Gronow, formerly of the Grenadier Guards, and M.P. for Stafford. Related by Himself. Smith, Elder, & Co." These anecdotes of the camp, the court, and the clubs, at the close of the last war with France, give a curious and amusing picture of the state of society fifty years ago. It certainly does not cut a very good figure in these pages. Drinking, gambling, and duelling prevailed; and, if we only look to Captain Gronow's book, we should find nothing better to counterbalance them. It

will be surprising if some of the writer's stories do not bring upon him abuse; but that will not prevent the book from being read. Few will desire to go back to the times here painted. The book, however, is very amusing and illustrative. ——"The Influence of Railway Travelling on Health: from the *Lancet*. London: Hardwicke." We have already spoken of the interesting and important inquiry on railways published in the *Lancet*. Doubtless there is much truth in the *Lancet* reports; but the whole case as against railway travelling has rather an exaggerated look; and reminds one of Winslow's book on Insanity, whereby every reader is apt to feel himself to be on the very brink of mental derangement. Nevertheless, there is much useful as well as truthful matter in the little volume under notice, although too gullible a belief in everything there set forth must inevitably arrest the reader's career as a railway traveller.——"The Pressing Necessity for Increased Docks and Basins at Portsmouth, with some Observations on Mr. Cobden's 'Three Panics': A Letter to Lord Palmerston. By Rear-Admiral the Hon. Joseph Denman. London: Ridgway, 1862." The author of this pamphlet takes a very different view of the question of public dockyard establishments from Mr. Scott Russell, who asks us, as an *alternative*, whether it is a fleet or an establishment we want. For the rapid repair of ships, however, during war, extensive public dockyards must assuredly be an advantage equivalent almost to a double fleet, however advisable it may be to employ private shipbuilders to fit us out an iron fleet. The projected works at Chatham must surely satisfy the gallant admiral.—— "Sir Morton Peto and the Defence Commission. London: Ridgway, 1862." The author of this pamphlet advocates fixed forts, rather than floating defences, on the score of efficiency as well as of cost.

Miscellanea.

THE PRINCESS'S THEATRE.—"Henry VIII." has been revived with much of its former splendour; Mr. Charles Kean and Mrs. Kean playing with their accustomed power the principal parts.

THE CORPORATION OF LONDON AND EXHIBITION VISITORS. — The Corporation entertained some thousands of visitors on Thursday evening last, too late for us to do more than mention it. The Guildhall, the Council Chamber, and that of the Court of Aldermen, the ancient crypt, with all the adjacent apartments, were elaborately decorated for the occasion, under the general supervision of Mr. Bunning, the City architect; and the result was in the highest degree satisfactory. We may say a little more about it next week.

ARCHÆOLOGICAL EXCURSION.—The Midland Counties Archæological Association made the first of this year's excursions to Evesham and Pershore. The party was rather smaller than usual. However, nearly forty of the members and their friends left the New-street Station, Birmingham; and, after a pleasant journey through the lovely scenery between Bromsgrove and Evesham, reached the latter town soon after eleven. Here the visitors were received by Mr. Anthony Martin, who conducted the party to the many interesting places of the town. The ancient Bell Tower of the Abbey and the churches of All Saints and St. Lawrence were first visited. In the Church of St. Lawrence, not many years ago, a curious subterranean chapel existed under the southern aisle; but, as it made a step necessary in the flooring of the church above, its finely-vaulted ceiling, in the Early Pointed style, was ruthlessly destroyed. Within the same inclosure as this church stands that of All Saints. Entering by a Tudor porch at the west end, the visitors proceeded to the Mortuary Chapel, the work of Abbot Lichfield, and where his remains were laid. After visiting other places of interest at Evesham, the party went to Pershore, where a cold collation was served; Mr. S. Thornton, J.P., in the chair. Here it was announced that the next excursion would be either to Malvern or Leicester, and that a bachelor-party of the members would probably visit Compton Wynyates and Edge Hill,—an announcement which was received with murmurs of dissatisfaction by the ladies as well as many of the gentlemen present; and Professor Chamberlain explained that the only reason was that the excursion would fill a long and fatiguing day. The Abbey Church of Pershore was visited under the guidance of the last-named gentleman; and the vicar described the alterations proposed by Mr. Scott, and afterwards treated the party to refreshments at the vicarage, and they then returned, *viâ* Worcester, to Birmingham.

BELGIAN IRON PAINT. — The Belgian "minium," or iron paint, made at Anderghem, is a pure iron oxide mixed with about 1-4th its weight of silicious clay. It is said to contain no acid, and is now extensively used in this and other countries for painting ships' ironwork, gasholders, &c.—*Ironmonger*.

ST. PAUL'S.—"S. P." writes;—"Opportunity" (said once a schoolmaster of mine) "is the golden spot of time." Such now offers for obtaining a view of St. Paul's such as has never been yet seen; by the non-erection of the houses now being pulled down at the corner of Warwick-lane and Paternoster-row, and removing a few others.

EDINBURGH: LEITH-STREET TERRACE IN DANGER.—A case has been tried at the local police court, at the instance of Mr. Farquharson, jeweller, Leith-street, against Messrs. Horsburgh & Blair, tea and coffee merchants, Leith-street Terrace, for annoying him by moving a hurley along the terrace. It appeared from the evidence that the noise was sometimes loud enough to render any conversation unintelligible in Mr. Farquharson's shop. It was also stated that the terrace was not at first intended for business premises or moving heavy goods along. It was also stated by a proprietor that he lately employed an architect to inspect his property, and who was of opinion that if a hogshead was started on the one end it would sink the terrace. Decision was given against the defendants.

GREAT FIRES IN THE METROPOLIS.—The most extensive conflagration that has occurred in the metropolis since the memorable one in Tooley-street, on the 22nd of June last year, broke out about half-past three o'clock on Sunday morning last, in the Westminster-road, in a skittle-alley belonging to the Sun Tavern, in Mason-street. Amongst the numerous premises burnt was a carpenter's shop, containing, amongst other valuable property, a quantity of workmen's tools, some chests of which were worth from 70*l*. to 80*l*. each, all destroyed; and, as far as can be learned, none of the owners were insured for a single penny. A floor-cloth factory and various shops were also destroyed; and the official report of Captain Shaw, of the fire-brigade, comprises a list of no less than upwards of thirty houses injured and destroyed by the fire. The two land steam-engines are said to have done wonders, for each had two lines of hose attached, one on either side of the machines; and steady columns of water were projected from each, which fell through the entire length of the immense factory. In fact, the engines did rather more than was requisite; for so great was the force of the water distributed by the steam-power, that some of the back partition walls were knocked down as if battering-rams had been used. Besides the Westminster-road fires, there have been also fires within the last week at Hoxton, Oxford-street, Camberwell, and Woolwich. How long are metropolitan buildings to be reared as if, like "laid" fuel in grates, they were intended for setting fire to?

THE ENLARGEMENT OF THE CHATHAM DOCKYARD.—The total area of the existing docks and basins at the various naval ports is 41 acres; but the three new basins to be formed at Chatham will give an area of 59½ acres, the largest basin being 30½ acres in extent, or about five times the size of the principal basin at Keyham, the largest of the kind in England. The second basin will cover an area of 22 acres; and a smaller basin, mid-distant between the two others, with which it is connected, will be 7 acres in extent. The new works to be undertaken at Chatham will make that naval establishment considerably larger than the Cherbourg dockyard, where there is a floating basin 30 acres in extent. The new docks will be formed on the south side of the large basin, with which they will communicate with locks. The *Warrior*, and other vessels drawing 27 feet of water, will be docked without lightening as at all the existing docks, except Keyham. A complete system of dredging the river will be carried out; and already the whole of St. Mary's Island, extending towards the Medway some two or three miles, has been embanked by means of convict labour; and this will be continued towards the estuary of the Medway. The river from the dockyard to Garrison Point, at Sheerness, a distance of about twelve miles, will be deepened to form a channel 600 feet wide, and 27 feet deep at half-tide, which will give 31 feet at neaps, and 35 feet at springs. The entire works, including the excavations for the proposed docks and basins, will be executed by the convicts at Chatham, who have been occupied for several months past in the manufacture of the bricks required in the undertaking.

ATMOSPHERIC TIDAL LAWS.—Mr. Mathieu (de la Drôme), who may be recollected in connexion with the French republican assemblies of 1848, affirms that he has discovered regular tides in the atmosphere, precisely analogous to those of the sea, and which reduce varieties of temperature to settled rule, by which the weather can be foretold days, weeks, nay, months, in advance, with scientific accuracy.

WORKMEN'S DINNER. — The workmen in the employ of Messrs. William Lawrence & Sons, of Lambeth, builders, celebrated their anniversary on Saturday last, at the Plough, Beddington Park, near Wallington, Surrey. After a pleasant day spent in the fields, the party dined in the large room attached to the inn. Mr. J. E. Poole, foreman of plumbers and painters, supported by some of the oldest workmen, many of whom have been upwards of thirty years in the employ, occupied the chair; and facing him was Mr. Webster, foreman of joiners. Some songs were well sung by the men, and were closed with various toasts. And then, as one of the guests writes, moved almost to poetry by the extent of his enjoyment,—"They returned to town invigorated by their trip, improved by their association, charmed by their entertainment, and soothed by the most kindly feelings to each other."

CHEAPSIDE *v.* CANNON-STREET.—According to the *City Press*, on the 25th of March, 1862, no fewer than 291 omnibuses passed through Cheapside, in the space of an hour, in the middle of the day. During the same hour (12.20 to 1.20 p.m.) only two passed through Cannon-street. During the same hour, 573 cabs went through Cheapside, and only 256 through New Cannon-street. It has been ascertained that 361 omnibuses pass through Cheapside daily: of these, 306 belong to the General Omnibus Company, and 55 to other proprietors. Each of these omnibuses makes six journeys in a day to the Bank, and six returning thence; in all 4,332 transits through Cheapside and the Poultry in the course of a single day. Add to this the usual proportion of Pickford's vans, country carts, brewers' drays, and the wonder is, not that it is unsafe, and a loss of time to cross Cheapside, but that there are not lives lost every day. Were not the City police well trained to their work, and as vigilant as fresh outposts in an American camp, Cheapside and Fleet-street would be as riotous as Donnybrook Fair.

TELEGRAPHIC.—An action has been decided in the Sheriff's Court, Glasgow, which arose from the following circumstance. The plaintiff or pursuer, on one of the Electric and International Telegraph Company's blank message schedules, wrote instructions to his London correspondents to buy for him in the market "three thousand Turks"—meaning Turkish or Ottoman Scrip, representing stock of the value of 3,000*l*. The words were distinctly written; nevertheless the Telegraph Company, who were the defendants, forwarded the message to buy "three thousand Trunks." And accordingly 3,000 "Trunks," that is 3,000*l*. worth consolidated stock of the Grand Trunk Railway of Canada, at 24*l*. 15*s*. per cent., were purchased. The pursuer alleged he sold this stock at a loss of 15*l*. The Company maintained that they were not liable for mistakes of this character unless the message was repeated per special agreement, and the court held that the pursuer could not recover.——The United Kingdom Telegraph Company have announced at Edinburgh their adoption of a uniform charge of one shilling for telegraphic messages.

HARDENING IRON AND STEEL. — Mr. E. Partridge, of the Patent Axle Works, Smethwick, has provisionally specified an invention which consists in first heating the article to be hardened in a bath of lead or other suitable molten metals, or in a retort, so as to be protected from the direct action of fire. In applying to it, either in the bath or retort, or immediately on its withdrawal therefrom, a composition presently to be described either in powder or liquid, in some cases the article is returned to the bath or retort after such application. In preparing the composition he takes prussiate of potash or other substance containing cyanogen, or possessing like chemical properties, and reduces it to powder. He mixes with it powdered nitrie and common salt and sets fire to the composition. He takes the resulting ashes or substance remaining after the firing, and powders it. The powder liquefies under heat, and he uses it alone or mixed with charcoal (animal or vegetable), or other suitable form of carbon; or he liquefies the powder by dissolving it in liquid ammonia or other suitable solvent, and applies it to the articles to be hardened in a liquid state.

MR. PEABODY AND THE LONDON POOR.—On the 10th instant the freedom of the city of London, in a gold box, was presented to Mr. Peabody, in recognition of his gift of 150,000*l.* in aid of the poor. He was afterwards entertained at a banquet in the Egyptian Hall, when Mr. H. B. Adams, the American minister, made the speech of the evening. It was eloquent, and touched the time.

FALL OF A WAREHOUSE AT BOLTON.—A large warehouse, situate at the corner of Tipping-street, in Green-street, Little Bolton, has fallen to the ground a mass of ruins. The building has been unoccupied some time; and, about six months ago, was purchased for 350*l.*: for several weeks workmen had been engaged lowering the floors, sinking the cellars, &c., intending to make the premises into a public-house. The cutting away of the lower timbers, however, caused the building to come down.

MINSTER CHURCH (THANET).—The inner part of the church is in a ruinous state. The old arch at the west end of the tower has been dismantled of its mouldings, &c.; and the roof of the nave is stripped of its leaden covering, to be replaced by tiles, and the present ceiling taken away so as to show the inner open roof. The old timber is rotten with age. Under the old gallery, under the south transept-window, was found an old brick and flint tomb-like building, covered with a thick flat stone without an inscription, but nothing inside but a fore-arm bone and a splinter bone. Part of the old screen has been brought to light, and is now in the chancel. It has some ancient carved wood on it.

HORSE RAILWAYS IN SWITZERLAND. — The Horse Railway from Geneva to Carouge—the first section of the lines of horse railways to be constructed in the canton of Geneva under the concession granted to Mr. Burn, C.E.—was opened with the greatest success on the 19th ult. The opening of the line was celebrated by a local *fête* at Carouge, when 7,000 people were carried from Geneva and back. The fares on this line are the lowest ever attempted, and amount to a fraction more than three farthings per passenger per mile. This is the first line of horse railway that has been laid down on the Continent on the American system. The rail used is a grooved rail of peculiar form, which presents no obstruction or inconvenience to the ordinary traffic of the roads. It is some such lines, as branchlets, which are required in this country to complete the development of our railway system.

EMBALMING AMERICAN SOLDIERS.—An occasional correspondent of the *Times* states that he saw some of the embalmed bodies under the charge of "Drs. Brown & Alexander, Government Embalmers." The doctors told him their principal ingredient for embalming was a kind of liquid glass [water glass ?] and gypsum, which hardened to a substance like stone. In this state the body would keep for many years, perhaps for ever. The doctors took for embalming a private twenty-five dollars, and for an officer fifty dollars. Since the commencement of the war above 2,000 bodies of soldiers had been embalmed and sent home. This was done in deal boxes, lined with sheet zinc. "The poor fellow I saw nailed up," adds the writer, "wore his uniform, and his writing-case and portfolio were laid beside him. With this, and a bundle of hay under his head and the address on the cover of the box, he was sent home to his mourning parents."

NAPLES.—A communication from Naples says:—"Under the Bourbons little attention was paid to the treasures buried in Pompeii. One king devoted 6,000 ducats (25,000 francs) to those 'Pagan' researches. That allowance was afterwards reduced to 2,000 ducats. King Joseph purchased the ground which covered Pompeii; but Ferdinand I., on his restoration, sold it again. The workmen only went to the excavations when a royal prince came to Naples. Only one or two rooms were thus cleared out every year. At present, under the intelligent direction of Professor Fiorelli, the matter is better attended to. A railway now carries away the rubbish cleared out: a sum of 60,000f. is annually devoted to the excavations; and the works executed last year led to more discoveries and revealed more treasures than those of the twenty preceding years. A new house, very rich in important paintings; a new lupanar, covered with engraved inscriptions; and a number of articles in bronze, particularly a small statue, considered the finest ever found at Pompeii, are among the most recent discoveries. If the works are followed up with the same zeal, and under the eyes of the same director, the whole city will be brought to light in five years from the present time."

THE PLATE-GLASS TRADE.—At a recent meeting of the English plate-glass manufacturers, held at Birmingham, comprising representatives from every company in the trade, the sum of 300 guineas was presented to Mr. R. W. Swinburne, of South Shields and Newcastle, in testimony of the regard and esteem of his brother manufacturers, and in acknowledgment of the eminent services rendered by him, as their president, in promoting the advancement of the trade.

MONUMENTAL.—It is proposed to erect, by subscription, a marble statue of the late Lord Canning, and to place it on an appropriate site in the new India Office. The cost of it will be about 1,500*l.*——The Richmond tenantry in Strathbogie having some time ago resolved to erect a statute of their late landlord, the execution of the statue was intrusted to Mr. A. Brodie, of Aberdeen, and it is now nearly completed. It is a colossal figure, 9 feet in height, of Redhall freestone, and represents the Duke in his uniform as colonel of the Sussex militia. The statue is to be erected at Huntly.

CHURCH STRUCK BY LIGHTNING. — Tackley Church, Woodstock, has been struck by lightning. The electricity entered on the west side of the tower, piercing it horizontally, and passed through the other side nearly on a level, making a perforation as clean as if done by a cannon-ball. It entered also at the west window, breaking the stone mullion; passed through the whole length of the church; and escaped through the east window; breaking it at the top, middle, and bottom. Great damage was also done to the west side of the church.

DRINKING-FOUNTAIN MOVEMENT.—A fountain has been inaugurated at Ironbridge, in memory of the late Rev. M. Bartlett, of Marnwood. Mr. Bartlett presented the fountain to the parishioners. The water which supplies it is conveyed by iron pipes from Strethell. It is intended, in addition to the street fountain, to erect at the back of it, in the Market-square, another fountain. This will assume the form of an obelisk. It will be constructed of Aberdeen granite, 15 feet high. The whole of the erections and constructions have been under the superintendence of the Messrs. Nevitt, builders, Ironbridge.

GAS.—The Boston Gas Company has again declared a dividend of 8½ per cent.——The Halesworth Company has declared a dividend of 10 per cent. and a reduction in the price of their gas from 6s. 8d. to 5s. 10d. per 1,000 cubic feet. They have also directed a sum of money to be added to their reserve fund.——The Worksop Gas Company have declared the full rate of dividends allowed by their act of incorporation, namely, 8 per cent. on old and 7 per cent. on new share capital, besides placing a balance to their contingent fund account. The directors have of late years reduced their price from 6s. 8d. to 5s.—— At Brechin the local company have reduced their price from 5s. 5d. to 5s., and declared their former dividend of 10 per cent.

EAST BRIDGFORD (NOTTINGHAMSHIRE).—The parish church, which has been undergoing a partial restoration under the care of the rector, the Rev. A. A. Barker, has been reopened. Messrs. Wilson & Walker, of Nottingham, were the architects for the restoration. The old high pews give place to new benches of red deal. The floor has been taken up and re-laid, and a new iron stove placed under ground provided with cold air by flues from the external walls. Another improvement was the re-plastering and scraping of the stone-work. The external masonry has been preserved in most instances. A new open roof has been erected: the south porch and east window have been restored; and various other improvements effected. The expense of the restoration has been about 400*l.*, and the contractors were Messrs. Wood & Gilbert, of East Bridgford.

EDINBURGH SCHOOL OF ART.—The examination of the students at this school, by the Art-Inspector from the Department of Science and Art, having taken place, the competition works, under charge of the Commissioners of the Board of Manufactures, were opened for exhibition to the public in the eastern division of the National Gallery, free of charge. The works executed in the female department of the school are under the superintendence of Miss Ashworth; and those in the male department under that of Mr. Hodder, assisted by Mr. Morley. In the female section, the Board of Manufactures has given prizes to the amount of 10*l.*; in addition to which eighteen medals and five awards have been conferred by the Department of Science and Art. In the male section there are twenty-seven medals awarded, with two awards to the pupil teachers.

DONCASTER.—The chancel of Christ Church is to be enlarged, to allow of the new organ about to be built being placed therein. For this purpose a part of the present churchyard will be inclosed. The whole will be done under the direction of Mr. Brundell, the architect.

ST. NICHOLAS'S CHURCH, NEWCASTLE.—The finance committee of the town council recommend the effecting of the repairs required for the maintenance of the steeple of St. Nicholas's Church, through a general committee of the inhabitants, from a fund to be raised by public subscriptions; and that the council should vote a donation of 500*l.* towards any fund that may be raised for the purpose. Their report has been adopted.

FINSBURY SCHOOL OF ART.—On the 18th ult., the Committee of the Finsbury School of Art met at the school-room, in William-street, to present the prizes awarded to the students by the Department of Science and Art. Mr. W. W. Williams, the chairman, presided, and congratulated the students on their continued progress. Five medals, two hon. mentions, three prizes, and thirteen certificates were awarded. In the absence of the chairman (a juror at the International Exhibition), Mr. Whiskin attended on the 19th ult., at St. George's Hall, Barnsbury, and distributed three prizes and thirteen certificates to the pupils of the Ladies' Morning Class, successfully taught by Miss Doidge.

"MASTERPIECES OF INDUSTRIAL ART AND SCULPTURE AT THE INTERNATIONAL EXHIBITION, 1862."—Under this title Messrs. Day & Son are about to publish a costly and, what we believe will prove, a very fine work, by Mr. J. B. Waring. It is dedicated, by command, to the Queen; and will consist of three hundred plates, containing several hundred illustrations of the most choice examples, foreign as well as native, in sculpture and decorative art, executed by Messrs. Day & Son, lithographers to the Queen, in the highest style of excellence attainable in chromo-lithography, from coloured photographs taken for the purpose with the permission of the exhibitors. The selection appears to have been made simply with reference to the merit of the objects exhibited; and we shall be glad if this notice of it lead to an increase in the list of subscribers.

ACCRINGTON, LANCASHIRE.—Considerable improvement has been made in Christ Church, Accrington, by removing all the pews from the chancel, which has been raised 6 inches above the floor of the church. Pitch-pine open stalls have been placed in their stead, with carved ends. The space before the altar-rails has been laid with Minton's encaustic tiles, and the rails gilded and coloured. The work has been carried out under the superintendence of Mr. Macaulay, architect, who has also prepared a cartoon for the mural decoration of the wall-spaces between the three arches under the east window. The ornamentation consists of a conventional treatment of the passion-flower, the intertwining stems of which form three panels, in which are illuminated in gold and colours the Ten Commandments, the Belief, Lord's Prayer, &c. On the transept of the same church has lately been placed a mosaic ground-stained-glass window, containing a vesica, with figures of the Three Wise Kings of the East following the star, and executed by the St. Helen's Crown Glass Company.

TENDERS.

For the Birkenhead Union Workhouse:—

Laurence	£14,456	19	0
Roberts & Robinson	11,183	0	0
Haigh & Co.	11,160	0	0
Corrie	10,932	1	5
Humphreys	10,580	0	0
Nicholson & Ayre	10,279	0	0
Allan	10,183	0	0
Neill (accepted)	9,750	0	0

For the erection of pumping-station at Crossness, near Erith, Kent, for the Metropolitan Board of Works. Those contractors marked thus, †, tendered from quantities supplied by the Messrs. J. C. & G. Lansdown:—

	Peto	£330,821	0	0
	Hill	330,000	0	0
	Brassey	327,000	0	0
†	Aird & Son	323,136	0	0
	Furness	320,000	0	0
	Thirst	315,000	0	0
	Lavers	309,000	3	0
†	Webster (accepted)	300,000	0	0
†	Myers	297,986	0	0
	Ward	278,400	0	0

For alterations and additions to the Presbyterian Church, Carlton-hill, St. John's-wood. Mr. George Truefitt, architect:—

Thomas	£480	0	0
Allen	393	0	0
Longmire & Burge (accepted)	382	0	0

For villa residence, Shiffnal, Salop. Mr. George Bidlake, architect:—

Clarke (accepted)	£1,380	0	0

For dining-room at Pangbourne Rectory. Messrs. Poulton & Woodman, architects:—

Woodroffe	£444	0	0
Searle	444	0	0
Matthews	430	0	0
Strong	407	0	0
Wheeler	403	0	0
Shepherd	403	0	0
Briant	399	10	0

For pulling down and clearing away present buildings, and erecting six new almshouses, at Petersham, Surrey. Messrs. Waring & Blake, architects:—

Long (accepted)	£719	0	0

For two houses for Mr. J. Bratts, Havelock-road, Hastings. Mr. Hopkinson, architect. Quantities supplied:—

Jones	£1,835	0	0
Vidler	1,774	0	0
Broadbridge	1,758	0	0
Howell	1,754	7	0
Parks	1,727	0	0
Pattendon	1,680	13	1
Longhurst (accepted)	1,671	10	0

For new wing to the Green Man public-house, Tooley-street, and alterations to the present house, for the Charing-cross Railway Company:—

Rawlings	£1,188	0	0
Heath	1,135	0	0
Newman & Mann	1,107	0	0

For the erection of gas-testing room, store-room, &c., Spitalfields, for the Metropolitan Board of Works:—

Simms	£1,753	0	0
Walker	1,593	0	0
F. & J. Wood	1,570	0	0
Mann	1,415	0	0
Hall (accepted)	1,367	0	0

For the erection of alms-houses, Brixton. Messrs. Lauder & Bedells, architects:—

Ryder	£3,380	0	0
Lawrence, Bros.	3,273	0	0
Patman & Fotheringham	3,262	0	0
Colls & Co.	3,172	0	0
Palmer	3,029	0	0
Marsland & Son	3,020	0	0
Hill & Son	2,974	0	0
Dove, Bros.	2,965	0	0
Mann (accepted)	2,945	0	0

For office and beer-stores, in the Union-street, Aldershott, for Mr. Taunton. Messrs. Eggar & Stapley, architects:—

Martin	£340	0	0

For workshops and cottages, Castle-street, Farnham, for Mr. James Tily. Messrs. Eggar & Stapley, architects:

Birch	£616	0	0
Duke	604	0	0
J. & G. Goddard (accepted)	564	0	0

For the erection of stabling, and works connected, for Mr. J. R. Andrews, at Wimbledon. Mr. C. R. Gribble, architect. Quantities not supplied:—

Adamson & Sons	£718	17	0
Aries (accepted)	702	14	0

For the erection of two detached houses, with coach-houses and stables, at Erith, Kent. Mr. Herbert Ford, architect:—

Simmons	£4,799	0	0
Wood	4,646	0	0
Watson	4,117	0	0
Hart	4,000	0	0
Dennis	4,000	0	0
Todd	3,981	0	0
McLennan	3,780	0	0
George	3,540	0	0
Bills & Gimbrel	3,302	0	0

For house and shop, at Rugby, Warwickshire. Messrs. Elmslie, Franey, & Haddon, architects:—

Bromwich	£625	0	0
Parnell	589	0	0
Wooldridge	580	0	0
Bradshaw	550	10	0
Rathbone (accepted)	550	0	0

For Christ Church Schools, West Bromwich. Mr. John Weller, architect:—

Baker	£2,081	0	0
W. & B. N. Smith	2,080	0	0
Hartland	1,997	0	0
Thompson	1,990	0	0
Harley	1,949	0	0
Horsman	1,935	0	0
Fisher	1,900	0	0
Cox	1,900	0	0
Ramsay (accepted)	1,850	0	0
Field	1,677	0	0

For a house and shop, to be built at Herbert-road, Potteries Estate, Shooter's-hill, Plumstead, Kent, for Mr. W. J. Lamb. Mr. W. Gosling, architect:—

Lidbetter	£360	0	0
Lonergan	350	0	0
Thompson	350	0	0
Sonnex	339	0	0
Smith	330	0	0

For the erection of boys', girls', and infants' schools, &c., for the district parish of Holy Trinity, Tulse-hill, Surrey. Mr Mathews, architect. Quantities supplied:—

Hill & Son	£1,525	0	0
Wicken	1,389	10	0
Sawyer	1,353	0	0
Smith	1,334	0	0
Pearce	1,295	0	0

For chapel at Newmarket, Suffolk:—

Wardle & Baker	£2,449	0	0
Westley	2,448	0	0
Clarke	2,374	0	0
Andrews	2,350	0	0
Simms	2,200	0	0
Dove	2,118	0	0
Suff	2,026	0	0
Haines	1,999	0	0

For a residence at Hampton, Middlesex, for Mr. H. E. Knight. Mr. John Wimble, architect:—

Oades	£2,000	0	0
Walker	1,944	0	0
Brass	1,897	0	0
Simms	1,690	0	0
Wheatley	1,617	10	0
Adamson	1,599	0	0
Sharpington & Cole	1,567	0	0

TO CORRESPONDENTS.

E. C. S.—H. B.—Capt. D. C.—J. B.—P. D. T.—J. A. D.—W. B.—J. W.—A. S.—C. H. R. (send us particulars).—Mr. H.—J. P. W.—R. R. P. (next week).—Finsbury Student.—E. & T.—W. G.—A Liveryman.—Neptune.—R. T. S. (first part is not clear. Send address).—W. & H.—T. F. (is under consideration).

NOTE.—*The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.*

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EDWARD FELKIN, Clerk.
Office of the Sheerness Local Board of Health, 8th July, 1862.

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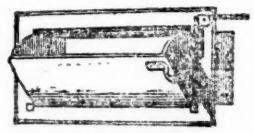

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